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ABSTRACT

This directory provides descriptions of training and technology resources that address the needs of the local highway community. It is divided into seven sections: (1) resources that deal with structures spanning roadways or carrying roads over rivers, streams, railroads, and depressed areas; (2) resources dealing with the control through planning, design, construction, and maintenance of the flow of water, both surface and underground, through, under, and alongside highways and with the roadside; (3) resources dealing with mechanical devices and specialized units used to excavate, fill, compact, transport, pave, and maintain roads and streets; (4) resources addressing the art of developing a mix of personnel, material, machines, and methods to achieve a specified goal and resources on surveying, mathematics, plan reading, safety, liability, and computers; (5) resources concerning the safe movement of vehicles through intersections, work areas, and special zones and winter operations; (6) resources that deal with the design, construction, maintenance, and management of roads and streets; and (7) information about related and other sources of training and technology resources. Each entry is composed of the following components: title, type of product, source, contact for further information, short description, and targeted audience. (YLB)

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ED 385 706

U.S. Department of Transportation
Federal Highway Administration

State and Local Highway Training and Technology Resources

American Public Works Association

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Local Technical Assistance Program

American Public Works Association
Technology Transfer Clearinghouse

January 1994

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State and Local Highway Training and Technology Resources

January, 1994

U.S. Department of Transportation

Federal Highway Adminstration

American Public Works Association

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Introduction

Background

Established in 1981 as the Rural Technical Assistance Program, the Local Technical Assistance Program (LTAP) is a program of the Federal Highway Adminstration (FHWA). LTAP provides for local highway agencies' improved access to highway technology to meet the growing demands placed on local roads, bridges and public transportation.

LTAP has established a nationwide system of 55 technology transfer (T$^{2)}$ centers, some of which are located in universities, with others in State highway agencies. Four centers serve American Indian Tribal Governments. Each center develops a mix of technology transfer tools and information to most effectively address the needs of the local highway community.

Funding for the centers is provided through the Federal-aid process, which requires support and involvement from State highway agencies. The funding for the centers comes from Federal LTAP funds, State departments of transprotation, universities, local agencies, and finances designated by State legislation.

The centers serving American Indian Tribal Governments are jointed funded by FHWA and the U.S. Department of the Interior Bureau of Indian Affairs.

The Intermodal Surface Transportation Efficiency Act of 1991 provided authority to expand the program into urban areas as resources become available through 1997. This new authorization also included an emphasis on intergovernmental transportation planning for American Indian tribal governments, through training and technical assistance.

The centers enable local agencies to improve their transportation network by:

- o increasing transportation expertise at the state and local levels;
- o providing a channel for materials prepared at the national level for local use;
- o promoting the effective use of research findings and innovations for improving transportation; and
- o meeting the needs of transportation personnel in local areas with tailored resource materials.

In the technology transfer network, each center can serve as both a source and a recipient of information. The Technology Transfer Clearinghouse, operated under contract to the FHWA by the American Public Works Association, links the centers with information and technology available from other sources.

Data Input

Sources of data for this issue of the directory were the T^2 centers, State highway agencies, professional organizations, the private sector, universities, and FHWA.

Information on Entries

The T^2 centers are major contributors to this directory and they keep up with new developments in training. The centers are excellent resources for supplements to the entries listed in this directory. You are encouraged to contact the T^2 center in your State about entries in this directory or information about training and reosources available in your state. See Section 10 for a list of T^2 centers. This directory is also available in floppy disk format. You may request a copy on floppy disk from your local T^2 Center or the T^2 Clearinghouse.

Using the Directory

The directory is divided into sections by the following subjects:

- o **Bridges**: This section contains training and technology resources that deal with structures spanning roadways or carrying roads over rivers, streams, railroads, depressed areas, and other roadways which are constructed usually of steel, reinforced concrete, or wood.
- o **Drainage/Roadside**: This section contains training and technology resources that deal with drainage, the control through planning, design, construction, and maintenance of the flow of water, both surface and underground, through, under, and alongside highways. This section also contains resources dealing with the roadside.
- o **Equipment**: This section contains training and technology resources dealing with the mechanical devices and specialized units used to excavate, fill, compact, transport, pave, and maintain roads and streets.
- o **General/Management**: This section contains training and technology resources that deal with the art of developing a mix of personnel, material, machines, and methods to achieve a specified goal. This section also includes resources on surveying, mathematics, plan reading, safety, liability, and computers.
- o **Operations**: This section contains training and technology resources dealing with the safe movement of vehicles through intersections, work areas and special zones. This section also includes resources that concern winter operations.
- o **Roads**: This section contains training and technology resources that deal with the design, construction, maintenance, and management of roads and streets.
- o **Other Resources**: This is a special section containing information about related and other sources of training and technology resources.

You may also look up entries by title (Section 9).

Contents of the Resource Directory

Each resource in the directory is composed of the following components:

- o The title
- o The type of product (such as course, manual, or videocassette)
- o The source of the item
- o A contact who can give further information
- o A short description of the product
- o The targeted audience.

Updates

The Clearinghouse directory will be updated at yearly intervals. Each source unit is urged to examine the directory and notify the T^2 Clearinghouse of any changes that may have occurred since the last directory was published.

Bridges

Bridge Deck Repair

Product: Videocassette, 8:30 minutes
Date produced: 1981
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape shows an actual work crew repairing a pothole on a bridge deck of an interstate highway. (AV# 00060)
Target audience: Work crews, supervisors

Bridge Management System (BMS)

Product: Videocassette, 35 minutes
Date produced: 1987
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape explains Bridge Management System (BMS) as a tool for use in determining present and future needs for maintenance, rehabilitation, and replacement of bridges in Pennsylvania. It enables cost-effective management of the bridge system state wide by evaluating data and prioritizing work schedules. (AV# 00565)
Target audience: Maintenance supervisors

Bridge Painting Inspection

Product: Slides, workbook
Date produced: 1984
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-weeks loan/may duplicate; private $25 handling fee for loan, can't duplicate; workbook is $10 if sold separately
Description: This audiovisual course contains 239 slides and runs for one hour and 30 minutes. The course uses a workbook that covers the procedures for the inspection of bridge painting projects. (C0103A)
Target audience: Maintenance inspectors, supervisors and foremen

Bridge Safety Inspection for Local Governments

Product: Videocassette, 12 minutes
Date produced: 1988
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette describes the requirements and responsibilities for bridge safety inspection for local governments. (AV# 00750)
Target audience: Local government officials

Computer-Aided Seismic Analysis of Highway Bridges Workshop

Product: Course
Date produced: 1993
Source: Dr. M. Saiidi
Contact: Dr. M. Saiidi, Professor and Chairman, Civil Engineering Department, University of Nevada, Reno, NV 89557 (702) 784-6937
Cost/terms: $2,000 plus travel plus per diem for instructors
Description: The purpose of this course is to present an introduction to the finite method of analysis of highway bridges, with particular emphasis on the modeling of earthquake loads. A brief introduction to the dynamics of structures is included. The course also incorporates practical modeling methods of bridge elements and systems, and a discussion of the interpretation of computer data. The hands-on computer session will allow the participants to apply some of the newly-acquired skills immediately.
Target audience: Engineers with a B.S. in civil engineering or those who have been involved in bridge design without the benefit of a formal course in finite element analysis.

Computer Assisted Bridge Design and Drafting BRADD-2

Product: Videocassette, 34 minutes
Date produced: 1987
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch; $35 for VHS
Description: This videotape shows the "why" of computer-assisted design. It shows an actual demonstration and an interview with the BRADD-2 project manager. (AV# 00489)
Target audience: Bridge designers

Highway Bridge Type and Performance Patterns

Product: Manual
Source: Portland Cement Association
Contact: Wayne S. Adaska, Director Public Works, Portland Cement Association, 5420 Old Orchard Road, Skokie, IL 60077-1083 (708) 966-9559
Cost/terms: $1, discounts available
Description: The 12 most common highway bridge types are identified based on data from the National Bridge Inventory maintained by FHWA. Performance and most common sources of bridge deficiency are identified at national and state levels and by highway types.
Target audience: Bridge and highway engineers and public officials

Hot Sprayed Zinc Coating/Hot Sprayed Aluminum Coating

Product: Videocassette (VHS), 90 minutes
Date produced: 1988
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette is a technology transfer session, highlighting the history of hot sprayed metal coatings as used on bridge

structural steel. It covers techniques for shop-applied sprayed coating on field-assembled structural steel. (AV# 00682)
Target audience: Supervisors and work crews

Introduction to Bridges

Product: Videocassette, 43 minutes
Date produced: 1993
Source: University of Arkansas
Contact: Robert Alguire, Arkansas T^2 Program Coordinator, University of Arkansas, Department of Civil Engineering, 4190 Bell Engineering Center, Fayetteville, AR 72701 (501) 575-6025
Cost/terms: May duplicate
Description: This is a general introduction to the subject of bridges. It is intended as a qualitative treatment of the subject for road and bridge employees who have little, if any, background in structural engineering concepts. The videotape addresses such topics as:

- types of bridges;
- kinds of loads that bridges have to carry;
- ways bridges are constructed to resist those loads; and
- kinds of stresses induced in the members by these loads.

This is part one of a new series on bridges.
Target audience: State, county, and city road and bridge personnel

Load Posted Bridges

Product: Videocassette, 7 minutes
Date produced: 1988
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: Videocassette briefly describes the requirements and responsibilities for load posting bridges on public roads. It is suitable for local and county governments, public, or private associations. (AV# 00645)
Target audience: Local government officials, road superintendents

Minor Maintenance Manual for County Bridges

Product: Text
Date produced: 1984
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost/terms: One copy free, multiple copies at cost
Description: This manual, written by Brent Roberts, Marion B. Scott and Charles F. Scholer, offers information on the organization of a maintenance program, maintenance operations (approach, road, roadway, and superstructure maintenance), substructure maintenance, channel maintenance, recurring problems, a minor maintenance checklist, and bridge maintenance report.
Target audience: Personnel responsible for bridge maintenance

Pile Cap Replacement

Product: Videocassette (VHS), 13 minutes
Date produced: 1991
Source: Oregon T^2 Center, Oregon Department of Transportation
Contact: Wes Heidenreich, Coordinator, Oregon T^2 Center, Oregon Department of Transportation, 2950 State Street, Salem, OR 97310 (503) 378-3421
Cost/terms: Free loan, may duplicate
Description: This videocassette shows the procedure for replacing a timber pile cap beneath a concrete surfaced bridge while the bridge remains open to traffic. Replacement of the cap is aided by the use of rollers mounted on brackets that clamp to the cap's supporting piles.
Target audience: Maintenance supervisors and crews

Potential Gains Through Welded Wire Fabric Reinforcement

Product: Case history

Source: American Society of Civil Engineers *Journal of Construction Engineering Management*
Contact: Terri Mawson, Membership Director, Wire Reinforcement Institute, Inc., 1101 Connecticut Avenue NW, Suite 700, Washington, DC 20036-4303 (202) 429-5125
Cost/terms: $2 each
Description: In this article authors Leonhard E. Bernhold and Peter Chang report a case history of a bridge built in Maryland in 1989. It compares the time and cost savings of welded wire fabric over rebar. The study was funded by the Maryland State Highway Administration.
Target audience: Bridge designers

Pre-stressed Concrete Bridge: Safety Inspection

Product: Videocassette, 58 minutes
Date produced: 1984
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: Various techniques of bridge inspection for a two-man team are described. In the videotape a team checks tools and equipment and organizes a field trip to their assigned bridges. The program shows a run-through of a bridge inspection and examples of various bridges' prestressed concrete beams. Historical information on the development and fabrication of prestressed concrete beams is also included. (AV# 00161)
Target audience: Bridge inspectors

Scour the Bridge: Engineers' Dilemma

Product: Videocassette, 20 minutes
Date produced: 1988
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape alerts bridge inspectors to the problems of scour and its potential for bridge damage. (AV# 00752)
Target audience: Bridge inspectors

Structural Concrete Inspection: Volume I and II

Product: Self-study course
Date produced: 1983
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free loan; private $15 each/can't duplicate
Description: Volume I of this programmed self-study course provides an in-depth presentation of inspection procedures and construction techniques used in the fabrication of Portland cement concrete structures. Students should have a background in plan reading, basic construction mathematics, and structural concrete inspection. (C0910A) Volume II provides an in-depth presentation of inspection procedures and construction techniques used in the fabrication of PCC structures. Students should already have some background in plan reading, basic construction math and structural concrete inspection. (C0911A)
Target audience: Construction personnel

Structural Painting

Product: Manual
Date produced: 1976
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy; private $14/can't duplicate
Description: This manual covers paints and procedures to be used when repainting or spot

painting bridges. (M3003A)
Target audience: Bridge repair crews

Structural Repair of Concrete Cracks by Injection of Epoxy Resin Adhesive

Product: Manual
Date produced: 1989
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies six-weeks loan/may duplicate; private $5/can't duplicate
Description: This manual covers the newer technological advances in dispensing equipment, materials, and techniques. It provides practical information and guidelines to project engineers as well as construction and maintenance personnel who either perform epoxy injection repairs or inspect the work. The manual includes an appendix, examples of forms, diagrams of equipment, and troubleshooting guides. (M3004B)
Target audience: Bridge repair crews

Timber Bridge Conference: Build Better and Save With Timber Bridges Series

Product: Videocassette
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS each
Description: The series includes the following:

- Timber Bridge Conference: Build Better and Save With Timber Bridges (24 minutes) - This timber bridge conference video provides general information on modern timber bridges while focusing on a stressed bridge installed at College Township, Pennsylvania in May, 1987. (AV# 00597)
- Timber Bridge Conference: Closing Comments (16 minutes) - This videotape presents the closing comments of the Build Better and Save with Modern Timber Bridges Conference. (AV# 00608)
- Timber Bridge Conference: Design of Bridges (44 minutes) - This videotape focuses on the design of timber bridges. (AV# 00604)
- Timber Bridge Conference: Different Bridge Types (22 minutes) This videocassette discusses different types of timber bridges. (AV# 00605)
- Timber Bridge Conference: Discussion of Raw Materials (22 minutes) - This videotape discusses the raw materials used for timber bridges. (AV# 00599)
- Timber Bridge Conference: Fabrication and Erection of Bridges (16 minutes) - This videotape discusses the fabrication and erection of timber bridges. (AV# 00606)
- Timber Bridge Conference: Funding and Assistance Programs (13 minutes) - This videotape discusses funding and assistance programs for timber bridges. (AV# 00600)
- Timber Bridge Conference: General Concepts and Costs (49 minutes) - This videotape discusses general concepts and costs of modern timber bridges. (AV# 00598)
- Timber Bridge Conference: Pre-fabricated and Packaged Bridges (20 minutes) - This videotape discusses pre-fabricated and packaged timber bridges. (AV# 00601)
- Timber Bridge Conference: Specifications and Standards (19 minutes) - This videotape discusses specifications and standards for timber bridges. (AV# 00602)
- Timber Bridge Conference: Timber Preservative Treatments (12 minutes) - This videotape discusses preservative treatments for timber bridges. (AV# 00603)
- Timber Bridge Conference: Use and Maintenance of Bridges (19 minutes) - This videotape discusses the use and maintenance of timber bridges. (AV# 00607)

Target audience: Construction crews, supervisors, general

Timber Bridge Update #1

Product: Videocassette, 17 minutes
Date produced: 1991
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch; $35 for VHS
Description: This videocassette presents an update on timber bridges in Pennsylvania. It introduces the world's first hardwood/steel composite timber bridge. (AV# 01329)
Target audience: Public officials, engineers

Timber Bridge Update #2

Product: Videocassette (VHS), 28 minutes
Date produced: 1992
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: In this videocassette viewers can see the first Red Oak timber bridge designed for highway use. (AV# 01464)
Target audience: Public officials, engineers

Drainage/Roadside

Adopt-a-Road: Program and Roadside Safety Training

Product: Slide-tape
Date produced: 1990
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, 4101 Gourrier Avenue, Baton Rouge, LA 70808 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; private $25 handling fee for loan/can't duplicate
Description: This slide-tape presentation discusses the Adopt-a-Road program, the responsibilities of the group adopting the road, the responsibilities of Louisiana Department of Transportation and Development, and safety and hazard precautions necessary when working along the roadside. (G 1018 A)
Target audience: Public participating in Adopt-a-Road program

Concrete Pipe Installation

Product: Slides, handbook
Date produced: 1983
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies six-weeks loan/may duplicate; private $25 handling fee for loan, can't duplicate, handbook $10 to buy
Description: This audiovisual program uses 237 slides (82 minutes) and a handbook to cover the procedures to be used when installing concrete pipe cross and side drains. (C 0104 A)
Target audience: Construction and maintenance workers

Culverts: Proper Use and Installation

Product: Fact sheet (6 pages)
Date produced: 1989
Source: Wisconsin Transportation Information Center
Contact: Robert Fey, Program Director, Wisconsin Transportation Information Center, University of Wisconsin-Madison, 432 North Lake Street, Madison, WI 53706 (608) 262-8592
Cost/terms: Free, may duplicate
Description: This fact sheet provides information on the design, installation, and maintenance of highway culverts. Practical advice on alignment and culvert selection is included and proper installation procedures are emphasized.
Target audience: Local road staff and elected officials

Drainage of Asphalt Pavement Structures

Product: Manual (128 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $10
Description: This manual contains information on the proper surface and subsurface drainage of asphalt pavements for all purposes, including highways, roads, streets, parking areas, and airfields. (MS-15)
Target audience: Engineers

Drainage Pipe Installation

Product: Videocassette, 17 minutes
Date produced: 1987
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: The primary emphasis of this videotape is on proper compaction techniques. It includes a lesson plan for determining slope and grade. (AV# 00519)
Target audience: Road supervisors and foremen

Erosion and Sedimentation Control Highway Construction

Product: Videocassette, 18 minutes
Date produced: 1985
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This video presents sedimentation and erosion control measures for use along roadways. (AV# 00378)
Target audience: Work crews, supervisors

Erosion Control Material Installation: Demonstration

Product: Videocassette, 30 minutes
Date produced: 1985
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This video presentation shows the placement of erosion control fabric in a drainage ditch. (AV# 00251)
Target audience: Construction managers and engineers

General Ordinance Establishing Storm Drainage Control

Product: Model ordinance
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost/terms: First copy no charge, $5 additional copies, may duplicate, available for $25 for text on computer disk
Description: This is a model ordinance designed to assist local government officials in Indiana in drafting an ordinance for storm drainage control.
Target audience: Indiana county, city and town officials

Herbicides

Product: Slides, workbook
Date produced: 1985
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week

loan/may duplicate; private $25 handling fee for loan/can't duplicate
Description: Slides (174) and a workbook cover rates and techniques to be used when applying herbicides to right-of-way areas. (M2001A)
Target audience: Maintenance foremen and crews

Mailbox Safety

Product: Fact sheet
Date produced: 1989, revised 1993
Source: Transportation Information Center, University of Wisconsin-Madison
Contact: Bob Fey, Program Director, Wisconsin Transportation Information Center, University of Wisconsin-Madison, 432 North Lake Street, Madison, WI 53706 (800) 442-4615
Description: This fact sheet is a revision of the original #14. It presents recommended guidelines for mailboxes for mounted mail deliveries. It includes maximum sign and weight limits for support system, installation methods, siting and other pertinent features for safe mailbox installation.
Target audience: Local road staff, elected officials and general public

Pipe Placement

Product: Videocassette (VHS), 9 minutes
Date produced: 1989
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette describes the required labor, equipment and materials necessary for successful pipe placement operation. It examines the basic areas to consider when installing pipe, such as location, size, grade, excavation, bedding, setting the pipe, backfilling, and end treatment. (AV# 00898)
Target audience: Supervisors and work crews

Safety for Adopt-a-Highway Volunteers

Product: Videocassette, 9 minutes
Date produced: 1990
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch; $35 for VHS
Description: This videocassette presents a safety briefing for "adopt-a-highway" program volunteers. (AV# 01141)
Target audience: Highway litter program volunteers

Summary Report: The Breakaway Timber Utility Pole: A Survivable Alternative

Product: Manual
Date produced: 1993
Source: FHWA
Contact: Paul Scott, HNG-12, Highway/Utility Engineer, FHWA, 400 7th Street SW, Washington, DC 20590 (202) 366-4104
Cost/terms: Free
Description: This summary report provides information about the history, design, site selection, installation and evaluation of breakaway timber utility poles in Massachusetts.
Target audience: State and local highway agencies, utility companies, universities

Vegetation Management Workshop

Product: Course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course reviews vegetation programs and introduces new technologies for vegetation management.
Target audience: City managers, planners, those interested in roadside maintenance, or those interested in pesticide recertification credits

Equipment

Backing: You Owe It To Yourself Series

Product: Videocassette, 10 minutes
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, Pennsylvania 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette familiarizes equipment operators with proper backing procedures. It outlines proper procedures for backing methods that reduce backing accidents. (AV#00112)
Target audience: Equipment operators and foremen

Basic Equipment Operation: Dump Truck Audiovisual

Product: Slides, workbook
Date produced: 1983
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; private $25 handling fee for loan/can't duplicate
Description: This is an audiovisual course (201 slides, 68 minutes) with a workbook designed to cover weekly equipment inspections, specifics of dump truck operation maneuvers, ways to avoid abuse, and specific safety practices. (M5002A)
Target audience: Equipment operators

Basic Equipment Operation: Dump Truck Hands-On

Product: Instructor's guide
Date produced: 1983
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; private $25 handling fee for loan/can't duplicate
Description: This course is the second half of training on the dump truck and is taught by an experienced operator. Students practice driving maneuvers as well as servicing and equipment inspection for safety and preventive maintenance purposes. A hands-on instructor's guide

available from LTRC Training Office provides detailed lesson plans. (M5003A)
Target audience: Equipment operators

Basic Equipment Operation: Introduction Audiovisual

Product: Slides, workbook
Date produced: 1983
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; private $25 handling fee for loan/can't duplicate
Description: This course uses 269 slides (1 hour, 47 minutes) with a workbook to cover the various systems that make up all types of equipment. It covers troubleshooting, preventive maintenance, safety regulations, how to avoid equipment abuse, and pertinent Department of Transportation and Development policy and procedures. (M5001A)
Target audience: Equipment operators

Basic Equipment Operation: Safe Operating Checklist for Aerial Ladders - Part I and II

Product: Instructor's guide
Date produced: 1992
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan, may duplicate; private $5 fee for handling and duplication/can't duplicate
Description: Part I provides a guide for on-the-job training and practice for safe operating procedures for the aerial ladder truck. Part II is a checklist/practice to use for verification of the operator's ability to operate the equipment. Implementation guidelines are included. (M 5200 A and M5201 A)
Target audience: Equipment operators

Basic Equipment Operation: Safe Operating Checklist for Bucket Trucks - Part I and II

Product: Instructor's guide
Date produced: 1992
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; private $5 fee for handling and duplication/can't duplicate
Description: Part I provides a guide for on-the-job training and practice for safe operating procedures for the bucket truck. Part II is a checklist/practice to use for verification of the operator's ability to operate the bucket truck. Implementation guidelines are included. (M 5202 A and M 5203 A)
Target audience: Equipment operators

Basic Equipment Operation: Safe Operating Checklist for Digger Derrick- Part I and II

Product: Instructor's guide
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; private $5 fee for handling and duplication/can't duplicate
Description: Part I provides a guide for on-the-job training and practice for the safe operating procedures for the digger derrick. Part II is a checklist/practice for use for verification of the operator's ability to operate the digger derrick. Implementation guidelines are included. (M 5216 A and M 5217 A)
Target audience: Equipment operators

Basic Equipment Operation: Safe Operating Checklist for Dump Truck - Part I and II

Product: Instructor's guide
Date produced: 1992
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; private $5 fee for handling and duplication/can't duplicate
Description: Part I provides a guide for on-the-job training and practice for the safe operating procedures for the dump truck. Part II is a checklist/practice for use for verification of the operator's ability to operate the dump truck. Implementation guidelines are included. (M 5210 A and M 5211 A)
Target audience: Equipment operators

Basic Equipment Operation: Safe Operating Checklist for Fork Lift - Part I and II

Product: Instructor's guide
Date produced: 1992
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; private $5 fee for handling and duplication/can't duplicate
Description: Part I provides a guide for on-the-job training and practice for the safe operating procedures for the fork lift. Part II is a checklist/practice for use for verification of the operator's ability to operate the fork lift. Implementation guidelines are included. (M 5208 A and M 5209 A)
Target audience: Equipment operators

Basic Equipment Operation: Safe Operating Checklist for Motor Grader - Part I and II

Product: Instructor's guide
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; private $5 fee for handling and duplication/can't duplicate
Description: Part I provides a guide for on-the-job training and practice in the safe procedures for operating the motor grader. Part II is a checklist/practice to use for verification of the operator's ability to operate the motor grader. Implementation guidelines are included. (M 5204 A and M %205 A)
Target audience: Equipment operators

Basic Equipment Operation: Safe Operating Checklist for Roller - Part I and II

Product: Instructor's guide
Date produced: 1992
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; private $5 fee for handling and duplication/can't duplicate
Description: Part I provides a guide for on-the-job training and practice for the safe operating procedures for the roller. Part II is a checklist/practice for use for verification of the operator's ability to operate the roller. Implementation guidelines are included. (M 5206 A and M 5207 A)
Target audience: Equipment operators

Basic Equipment Operation: Wheel Tractor and Mowing Machine Audiovisual

Product: Slides, workbook
Date produced: 1984
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate, private $25 handling fee for loan/can't duplicate
Description: This audiovisual course uses 286 slides (2 hours, 19 minutes) and a workbook to cover equipment inspection, preventive maintenance and servicing, tractor instrument controls, tractor starting procedures, shutdown and securing, tractor mowing, and mowing safety. (M5004A)
Target audience: Equipment operators

Basic Equipment Operation: Wheel Tractor and Mowing Machine Hands-On

Product: Instructor's guide
Date produced: 1984
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan, may duplicate, private $25 handling fee for loan/can't duplicate
Description: This course makes up the second half of training on the wheel tractor and mowing machine. The course is taught by an experienced equipment operator/instructor. Students practice driving maneuvers, servicing and equipment inspection for safety and preventive maintenance purposes. A hands-on instructor's guide and lesson plans are available from LTRC. (M5005A)
Target audience: Equipment operators

Checklist and Sample Specifications for Dump Trucks

Product: Checklist
Date produced: 1986
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost/terms: One copy free, multiple copies at cost
Description: This checklist and sample specifications for single and/or tandem axle dump trucks contains checklists to assist in preparing specifications for single and/or tandem axle dump trucks, underbody scrapers, basic one-way snow plows, 30,000 Gross Vehicle Weight single axle and/or 50,000 Gross Vehicle Weight tandem truck chassis (for snow-plow mounting), dump bodies, and central hydraulics.
Target audience: Equipment managers

Checklist and Sample Specifications for Front End Loaders

Product: Text
Date produced: 1983
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost/terms: One copy free, multiple copies at cost
Description: This publication describes various items to be considered when seeking bids for basic two-three cubic yard articulating, rubber-tired, four-wheel drive front end loaders.
Target audience: Equipment managers

Checklist for Preparing Basic Motor Grader Specifications

Product: Text
Date produced: 1983
Source: Highway Extension and Research

Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost/terms: One copy free, multiple copies at cost
Description: This publication describes items to be considered when seeking bids for motor graders (29,000 lbs. Class).
Target audience: Equipment managers

Checklist for Preparing Basic Specifications for a Light Duty Sign and/or Service Truck

Product: Checklist
Date produced: 1984
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost/terms: One copy free, multiple copies at cost
Description: This publication describes suggested items to be considered when seeking bids for a service truck to be used for sign maintenance or other general purposes.
Target audience: Equipment managers

Commercial Drivers Licensing Video Series

Product: 10 Videocassettes (VHS), 3 1/2 hours
Source: Pennsylvania Department of Transportation
Contact: Pennsylvania Department of Transportation, Distribution Services Unit, Pennsylvania Department of Transportation, P.O. Box 2028, Harrisburg, PA 17105 (717) 787-6746
Cost/terms: $500 per set, $99 for Pennsylvania residents
Description: This series of ten videocassettes is a training aid for drivers attempting to obtain their commercial license. The series covers: overview, vehicle inspection, operating techniques, vehicle safety, transporting cargo, transporting passengers, air brakes, combination vehicles, and hazardous materials. The complete series is a pictorial manual, with the same words, references and test questions found in the Commercial Drivers Manual displayed on the screen.
Target audience: Persons taking the commercial drivers license

Cooling System Maintenance for Diesel Equipment

Product: Videocassette, 17 minutes
Date produced: 1988
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette is a follow-up to the standard preventive maintenance inspection. The program focuses on the use of new Pennsylvania Department of Transportation pre-mixed anti-freeze solution designed for diesel equipment. (AV# 00794)
Target audience: Supervisors and work crews

Dump Truck Operation

Product: Two Videocassettes (VHS)
Date produced: 1985
Source: Nebraska Department of Roads
Contact: Blane Osterman, Training Officer, Nebraska Department of Roads, Statehouse, P.O. Box 94759, Lincoln, NE 68509 (402) 479-4574
Cost/terms: Free loan, may duplicate
Description: The essential basic skills in dump truck driving are presented in this videotape. The videotapes emphasize daily preventive maintenance, starting and shutting down the engine, shifting gears, and maneuvering.
Target audience: Truck drivers

Equipment Maintenance: Programming and Scheduling
Product: Videocassette (VHS), 45 minutes
Source: Montana State University
Contact: John Hopkins, Director, LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717-0390 (406) 994-6100
Cost/terms: Free loan
Description: This videocassette presents a practical approach to assuring reasonable maintenance of fleet equipment used in the construction and maintenance of city streets. The videotape addresses rural counties in Montana and highlights the need for continuous equipment checks, maintenance done on schedule, and timely repairs after breakdowns. (660)
Target audience: Engineers and fleet managers

Equipment Operation: Backhoe Series

Product: Course materials
Date produced: 1986
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy/may duplicate; private $5 for series/can't duplicate
Description: This five-part series includes:

- Equipment Operation: Backhoe Introduction to Tractor-Mounted Backhoe - This course, part one, provides an introduction to the tractor-mounted backhoe and the advantages and disadvantages of using this equipment for digging. (M 5030A)
- Equipment Operation Backhoe: Tractor Start Up and Operation - This course, part two, covers the pre-start inspection and the safe way to start, drive, and park the equipment. (M5031A)
- Equipment Operation: Backhoe Operation - This course, part three, emphasizes general guidelines for the safe operation of the tractor-mounted backhoe. (M5032A)
- Equipment Operation: Backhoe General Maintenance This course, part four, provides guidelines for the safe maintenance of the tractor-mounted backhoe. (M5033A)
- Equipment Operation: Backhoe Hands-On - This course, part five, allows students to observe a demonstration on equipment use and to practice the skills involved. The hands-on segment is conducted at the trainer/supervisor's discretion. (M5024A)

Target audience: Equipment operators

Equipment Operation: Chain Saw

Product: Videocassette (VHS), 45 minutes
Date produced: 1988
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Free to public agencies/may duplicate; private $5 for series/can't duplicate
Description: This videocassette covers operation of the chain saw, preventive maintenance procedures, service requirements, and safety regulations. (M5102A)
Target audience: Equipment operators

Equipment Operation: Chain Saw Series

Product: Course materials
Date produced: 1986
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy/may duplicate; private $5 for series/can't duplicate
Description: This series includes the following:

- Equipment Operation: Chain Saw Introduction - This course, part one of a six-part series, explains the parts of the chain saw, identifies the chain saw engine, and explains how a two-stroke engine works. (M5066A)
- Equipment Operation: Chain Saw Engine

Operation and Maintenance - This course, part two of a series of six modules, covers the engine parts and how the chain saw engine works. It includes an explanation of carburetion, compression and ignition. It also discusses common causes of engine problems. (M5067A)
- Equipment Operation: Chain Saw Maintenance of Bar and Chain - This course, part three of a six-part series, covers maintenance techniques for the chain saw bar and chain. It provides information on the proper way to install the chain, correct a worn sprocket, and tension the chain. It also covers the correct size files to use to sharpen the chain teeth, and how to sharpen the teeth. (M5068A)
- Equipment Operation: Chain Saw General Operation and Maintenance - This course, part four of a six-part series, covers the start up, shutdown and operating procedures of the chain saw. It also includes information on transporting the saw, daily care of the saw, and storing the saw for extended periods. (M5069A)
- Equipment Operation: Chain Saw Safe Operation - This course, part five of a six-part series, covers the safe operation of the chain saw in the field. It includes information on different cuts needed to cut down a tree, the safest direction to retreat after cut, how to recognize hazards, how to recognize the direction of tree fall, and how to assume the correct cutting stance. (M5070A)
- Equipment Operation: Chain Saw Hands-On - This course, part six of a six-part series, allows a student to observe a demonstration on equipment use and to practice the skills involved. The hands-on segment is conducted at the trainer/supervisor's discretion. (M5071A)

Target audience: Highway work crews

Equipment Operation: Crane

Product: Course materials
Date produced: 1987
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy; private $10 for series/can't duplicate
Description: This course is a series of 24 modules. Topics include: Introduction; Terms; Parts of Crane Setup; Controls; Levers and Pedals; Instruments; Parts of Clam Shell Setup; Parts of Dragline Setup; Operator's Responsibilities; Pre-start Inspection; Wire Rope Inspection; Reeving Part 1 and 2; Controls Checkout; Planning Lift; Signals Part 1 and 2; Load Rating Charts; Electrical Hazards; General Operation Parts 1-3; Maintenance of the Hydraulic System; and Maintenance Lubrication. (M5098A)
Target audience: Equipment operators

Equipment Operation: Excavator Series

Product: Course materials
Date produced: 1986
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy/may duplicate; private $5 for series/can't duplicate
Description: This six-part series includes the following:

- Equipment Operation: Excavator Introduction - This course, part one, identifies the digging equipment used by the highway department. It serves as an introduction to the backhoe and the three main parts of the hoe. It identifies the power source and provides safety precautions to take before operating the backhoe. (M5048A)
- Equipment Operation: Excavator Start Up and Operation - This course, part two, covers pre-trip inspections and procedures used to safely start, drive and park the track backhoe. (M5049A)
- Equipment Operation: Excavator Vehicle/Implement Controls - This course, part three, covers the general arrangement and

safe use of the vehicle and the implement controls of the track backhoe. (M5050A)

- Equipment Operation: Excavator Hoe Operation - This course, part four, covers the positions of the hoe parts during the digging cycle. It provides general guidelines for the safe operation of the equipment. It also includes information on motion of boom, stick and bucket; filling the bucket; machine stability; operating on a slope; and lifting. (M5051A)
- Equipment Operation: Excavator General Maintenance - This course, part five, provides guidelines for the safe maintenance of the backhoe. It includes information on the safe inspecting and servicing of the radiator, battery, tracks, hydraulic system, and the implement. (M5052A)
- Equipment Operation: Excavator Hands-On - This course, part six, allows a student to observe a demonstration on equipment use and practice the skills involved. A hands-on segment is conducted at the trainer/supervisor's discretion. (M5053A)

Target audience: Equipment operators

Equipment Operation: Front End Loader Series

Product: Course materials
Date produced: 1986
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy/may duplicate; private $5 for series/can't duplicate
Description: This six-part series includes the following:

- Equipment Operation: Front End Loader General - This course, part one, covers the duties and responsibilities of the loader operator; the actions or movements of the bucket, lift arms and dump arms; the characteristics of the machine; and safety precautions to observe.
- Equipment Operation: Front End Loader Getting Started Safely - Part two covers procedures used in the pre-trip inspection and start up of the front end loader. (M5037A)
- Equipment Operation: Front End Loader Maintenance Safety - This course, part three, covers the responsibilities of the operator for preventive maintenance, inspections and servicing, preparations to be made for safe servicing, precautions to use when servicing, and precautions to use when servicing tires. (M5038A)
- Equipment Operation: Front End Loader Operating Procedures - Part four identifies the types of work done by the front end loader, operating procedures used to do the work, and safety rules to follow when doing the work. (M5039A)
- Equipment Operation: Front End Loader Roading and Shutdown - This course, part five, identifies the procedures and safety measures involved in roading and parking and shutting down the front end loader. (M5040A)
- Equipment Operation: Front End Loader Hands-On- This course, part six, allows the student to observe a demonstration on equipment use and to practice the skills involved. The hands-on segment is conducted at the trainer/supervisor's discretion. (M5041A)

Target audience: Equipment operators

Equipment Operation: Gradall Series

Product: Course materials
Date produced: 1986
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy/may duplicate; private $5 for series/can't duplicate
Description: This four-part series includes the following:

- Equipment Operation: Gradall Introduction - Part one serves as an introduction to the truck-mounted gradall. It covers the mounting used by the Louisiana Department of Transportation and Development, the rotation and working capacity, the disadvantages of the gradall, and the correct use of the remote-control feature. (M5043A)

- Equipment Operation: Gradall Start Up and Operation - Part two covers the procedures for safe start-up and operation of the Gradall. (M5044A)
- Equipment Operation: Gradall Operation of Upperstructure - Part three covers the procedures for the safe operation of the Gradall's upperstructure. (M5045A)
- Equipment Operation: Gradall General Maintenance - This course, part four, provides guidelines for the safe maintenance of the Gradall. It includes information on the safe inspecting and servicing of the radiator, battery, tires, hydraulic system and upperstructure. (M5046A)

Target audience: Equipment operators

Equipment Operation: Preventive Maintenance Series

Product: Course materials
Date produced: 1986
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy/may duplicate; private $5 for series/can't duplicate
Description: This four-part series includes the following:

- Equipment Operation: Preventive Maintenance Introduction - Part one covers the responsibilities of the equipment operator regarding preventive maintenance and the basic systems of a piece of equipment. (M5007A)
- Equipment Operation: Preventive Maintenance Servicing - This course, part two, identifies the items to be serviced. It also includes precautions to be taken and procedures to be used when maintaining equipment. (M5008A)
- Equipment Operation: Preventive Maintenance Troubleshooting - This course, part three, explains how to spot developing problems in equipment and what action to take when a problem has been identified. (M5009A)
- Equipment Operation: Preventive Maintenance Hands-On - This course, part four of a series of four modules on preventive maintenance practices, allows the student to demonstrate the ability to satisfactorily perform a preventive maintenance check unassisted by the instructor. A hands-on segment is conducted at the trainer/supervisor's discretion. Students should have some prior preventive maintenance experience or training. (M5010A)

Target audience: Equipment operators

Equipment Operation: Wheel Tractor and Mowing Machine Series

Product: Course materials
Date produced: 1987
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy/may duplicate; private $10 for series/can't duplicate
Description: This series includes the following:

- Equipment Operation: Wheel Tractor and Mowing Machine Introduction - This course, part one, covers the tractor operator's general responsibilities. It stresses the importance of safety and knowledge of the particular type of tractor he/she operates. (M5015A)
- Equipment Operation: Wheel Tractor and Mowing Machine Instrument Panel - This course, part two, covers the location, identification and purpose of each tractor control found on the instrument panel. (M5016A)
- Equipment Operation: Wheel Tractor and Mowing Machine Brake and Rear Axle - This

course, part three in a series of 14 modules, covers the location, identification, and purpose of the brake and rear axle control. It also explains the basic principles of operation for the tractor brakes and the rear axle control. (M5017A)

- Equipment Operation: Wheel Tractor and Mowing Machine Transmission and Power Take Off - This course, part four, covers the location, identification, and purpose of the clutch, shift levers, power-take-off, and the power-take-off manual control. It explains the basic principles of operation and safety rules used with these controls. (M5018A)
- Equipment Operation: Wheel Tractor and Mowing Machine Hydraulic System - This course, part five, covers the location, identification, and purpose of the two types of hydraulic system controls. It allows the student to locate and demonstrate the correct use of all instruments and controls on a tractor used for mowing. (M5019A)
- Equipment Operation: Wheel Tractor and Mowing Machine Types of Hitches - This course, part six, covers the identification of a fixed drawbar and a three-point hitch. It explains how to adjust a drawbar and how that relates to the parts of the power-take-off. It also covers the identification and purpose of the three-point hitch. (M5020A)
- Equipment Operation: Wheel Tractor and Mowing Machine Attaching Implements - This course, part seven, covers the procedures used to attach an implement to a drawbar hitch and to a three-point hitch. The hands-on segment is conducted at the discretion of the trainer/supervisor. (M5021A)
- Equipment Operation: Wheel Tractor and Mowing Machine Connecting Power Take Off - This course, part eight, covers the procedures used to attach a power-take-off to a tractor. The hands-on segment is conducted at the trainer/supervisor's discretion. (M5022A)
- Equipment Operation: Wheel Tractor and Mowing Machine Flail Mower - This course, part nine, covers how to identify a flail mower and its parts, how to adjust the height of the mower, what preventive maintenance is needed on the mower knives, and how to prevent wrapping. (M5023A)
- Equipment Operation: Wheel Tractor and Mowing Machine Rotary Mower - This course, part 10, covers how to identify a rotary mower blade, how to adjust the mowing height on a 5-, 7-, 8- and 15-foot rotary mower, and how to replace a worn blade. (M5042A)
- Equipment Operation: Wheel Tractor Mowing Machine Slope Mower General Information - This course, part 11, covers the responsibilities of a slope mower operator and the action of the control valves on this type of mower. (M5025A)
- Equipment Operation: Wheel Tractor and Mowing Machine Slope Mower Start - This course, part 12, covers the pre-start inspection for the slope mower attachment. It also covers the start up and shutdown routines for the slope mower. (M5026A)
- Equipment Operation: Wheel Tractor and Mowing Machine Slope Mower Operator Precautions - This course, part 13, covers the precautions to be followed when operating a slope mower. Part 13 consists of a list of 17 do's and don'ts relating to slope mower operations. (M5027A)
- Equipment Operation: Wheel Tractor and Mowing Machine Slope Mower Maintenance - This course, part 14, covers preventive maintenance, inspections and servicing, safety precautions to follow when inspecting and servicing, and procedures for daily servicing of the slope mower attachment. (M5028A)

Target audience: Equipment operators

Grader Operator Training Manual 1993

Product: Manual, self-study text
Date produced: 1993
Source: Adapted from Nebraska T^2 Program
Contact: Pete Coughlan, Director, Maine Local Roads Center, Technical Services Division, Maine Department of Transportation, State House Station 16, Augusta, ME 04333 (207) 287-2151

Cost/terms: Free to T^2 Centers, $25 all others
Description: This manual is used in Maine's "hands-on" motor grader operator training program. It describes the anatomy of a good road (paved or unpaved), dust control, erosion control, grader preventive maintenance, safety procedures, culvert design guidelines, grader operation, use of a hand pop level, and determining the cost of lost gravel.
Target audience: Municipal and public works officials, foremen, operators

Great Grader Operators Poster

Product: Poster
Date produced: 1989
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, Texas A&M University System, Texas Engineering Extension Service, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: $1 each poster, $10 minimum
Description: This poster illustrates and explains methods used to keep unpaved roads in good shape. It also points out ways to avoid common mistakes that result in unsound surfaces and frequent maintenance problems.
Target audience: Maintenance department foremen and equipment operators

Heavy Equipment Operation/Motor Graders

Product: Manual
Date produced: 1991
Source: Arizona T^2 Program
Contact: Don DeGraftenreid, Manager, Arizona T^2 Program, Arizona State University, CATSR/Technology Transfer, College of Engineering, Tempe, AZ 85287-6306 (602) 965-2744
Cost/terms: Free copy, may duplicate
Description: This one-day workshop offers hands-on motor grader training for beginning and intermediate operators. The course includes classroom instruction in safety, equipment maintenance and operational procedures.
Target audience: Motor grader operators

John Deere Safety Promotion Kit

Product: Videocassette (18 minute), posters, banner and study guide
Source: John Deere
Contact: Deere and Company, Distribution Service Center, Safety Films Department, 1400 13th Street, East Moline, IL 61244, (800) 544-2122
Cost/terms: $40
Description: The safety kit is built around the videocassette, "Looking Back," that depicts the four highest-frequency accidents involving construction and forestry equipment. It dramatizes the immediate causes and results of on-the-job accidents and stresses the more subtle emotional and attitudinal factors that workers can bring to the job without realizing they set the stage for accidents.
Target audience: Construction and maintenance staff

Maintenance Welding Techniques and Applications

Product: Manual (84 pages)
Date produced: 1991
Source: Cornell Local Roads Program
Contact: Toni Rosenbaum, Program Manager, Cornell Local Roads Program, 416 Riley Robb Hall, Ithaca, NY 14853-5701 (607) 255-8033
Cost/terms: Free to highway and public works officials, $5 to others
Description: This manual is directed to new and experienced welders who perform routine maintenance welding in local highway departments. It presents a variety of welding techniques and safety issues. (CLRP Report #91-6)
Target audience: Welders

Montana Association of County Road Supervisors Motor Grader Operators Handbook

Product: Self-study text
Date produced: 1992
Source: Montana State University LTAP
Contact: John Hopkins, Director, LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717-0390 (406) 994-6100

Cost/terms: Cost $10, may duplicate
Description: This self-study text is used in Montana as part of a blade operators' certification program. Six chapters, with self study questions, cover basic operations, blading aggregate surfaced roads, roadway safety, dealing with the public, dust suppressants, filter fabrics and when to pave a gravel road. This is a consolidation of original and RTAP materials.
Target audience: Motor grader operators

Mower Operation

Product: Two videocassettes (VHS)
Date produced: 1985
Source: Nebraska Department of Roads
Contact: Blane Osterman, Training Officer, Nebraska Department of Roads, Statehouse, P.O. Box 94759, Lincoln, NE 68509 (402) 479-4574
Cost/terms: Free loan, may duplicate
Description: This videocassette lesson covers the daily maintenance and operation of industrial tractors and rotary mowers. There are wide variations among the types of tractors and mowers, thus the operator will also need to consult the manufacturers' manuals.
Target audience: New operators

Municipal Equipment Management System (MEMS)

Product: Manual prepared for workshop
Date produced: 1993
Source: Maine Local Roads Center
Contact: Pete Coughlan, Director, Maine Local Roads Center, Technical Services Division, Maine Department of Transportation, State House Station 16, Augusta, ME 04333 (207) 287-2151
Cost/terms: Free to all T^2 Centers, $25 to all others
Description: This is a program developed by the New Hampshire T^2 Center and further adapted and improved for Maine's use. It is a software program designed for small towns and cities to help them manage their equipment and fleets. It helps to manage each municipal department scheduling equipment repairs, fuel and parts inventories, and tracking employee and vendor costs.
Target audience: Managers, public works directors, foremen

New on the Scene Series

Product: Videocassettes (VHS)
Date produced: 1990-92
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS each
Description: This series includes the following:

- Bearcat Tar Kettle (1992, 16 minutes) - This videocassette outlines pre-operational, start-up and operating procedures for all diesel asphalt melters. (AV# 01489)
- Crafco E-Z Pour 350 (1992, 18 minutes) - This videocassette outlines pre-operational, start-up and operating procedures for all diesel melters. (AV# 01488)
- Five Ton Articulated Compactor (1990, 10 minutes) - This videocassette provides an operational outline for the five ton articulated compactor. (AV# 01260)
- Skid Steer Loader (1990, 19 minutes) - This videocassette outlines operating procedures for the skid steer loader. (AV# 01263)
- The Tow-a-Long Roller (1990, 11 minutes) - This videocassette outline operational procedures for the Tow-a-Long Roller. ((AV# 01262)

Target audience: Equipment operators

Preventive Maintenance Around the Vehicle

Product: Videocassette, 9 minutes
Date produced: 1986
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS

Description: This is part two of a series of videotapes describing preventive maintenance procedures for single dump trucks. The videotape emphasizes around-the-vehicle preventive maintenance and it is especially of interest to mechanics. (AV# 00372)
Target audience: Dump truck operators and mechanics

Preventive Maintenance In-cab

Product: Videocassette, 14 minutes
Date produced: 1986
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This is part one of a series of videotapes describing preventive maintenance procedures for single dump trucks. The videotape emphasizes in-cab preventive maintenance and it is of interest to mechanics and drivers. (AV# 00371)
Target audience: Dump truck mechanics and operators

Preventive Maintenance Under the Hood

Product: Videocassette, 10 minutes
Date produced: 1986
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape is part three of a series describing preventive maintenance procedures for single dump trucks. Emphasis is on under-the-hood preventive maintenance. It is of interest to mechanics and drivers. (AV# 00373)
Target audience: Dump truck mechanics and operators

Preventive Maintenance Under the Vehicle

Product: Videocassette, 10 minutes
Date produced: 1986
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape is part four of a series describing preventive maintenance procedures for single dump trucks. The videotape emphasizes under-the-vehicle preventive maintenance. (AV# 00374)
Target audience: Dump truck mechanics and operators

Principles of Equipment Operation, Safety, and Maintenance

Product: Manual (58 pages)
Date produced: 1991
Source: Cornell Local Roads Program
Contact: Toni Rosenbaum, Program Manager, Cornell Local Roads Program, 416 Riley Robb Hall, Ithaca, NY 14853-5701 (607) 255-8033
Cost/terms: Free to highway and public works officials, $5 to others
Description: This manual is directed to new and experienced operators of rolling equipment within highway departments. It is useful to those interested in understanding the basic principles of engine operation, hydraulics, scheduled maintenance, and safety equipment and procedures. (CLRP Report #91-8)
Target audience: Equipment operators

Safely Controlling the Power of the Crawler Excavator

Product: Course, 3 videocassettes, facilitator's guide, participant manuals, post-viewing test
Date produced: 1993
Source: Video Information System Training Associates, Inc. (VISTA)
Contact: Ray Peterson, Director of Program Development, VISTA, 525 Milwaukee Avenue,

P.O. Box 247, Burlington, WI 53105-0247 (800) 942-2886
Cost/terms: $395, no free loan, may not duplicate (includes 10 participant manuals and 10 post-viewing tests, more available at $2.50/set)
Description: This course contains three videocassettes. The first focuses on familiarization, nomenclature and correct pre-start inspection procedure. The second covers safe operating procedures in a wide variety of applications and situations. The third provides truck drivers who transport these machine with safety tips and reminders. Most operating scenes are actual working locations.
Target audience: Equipment operators, transport truck drivers, repair technicians

Safely Controlling the Power of the Wheel Loader

Product: Course, 2 videocassette (VHS), facilitator's guide, participant guide, post-viewing test
Date product: 1993
Source: Video Information System Training Associates, Inc. (VISTA)
Contact: Ray Peterson, Director of Program Development, VISTA, 525 Milwaukee Avenue, P.O. Box 247, Burlington, WI 53105-0247 (800) 942-2886
Cost/terms: $395, no free loan, may not duplicate (includes 10 participant manuals and 10 post-viewing tests, more available at $2.50 per set)
Description: This course contains two videocassettes. The first focuses on proper pre-start inspection, what to look for and why it is important. The second focuses on proper operating techniques and safety in a wide variety of machine use applications. Topics such as correct procedure for driving the machine in town or on the highway as well as correct loading/unloading on a transport trailer are addressed.
Target audience: Equipment operators, transport truck drivers

Snow Plow and Spreader Operation

Product: Videocassette (VHS)
Date produced: 1985
Source: Nebraska Department of Roads
Contact: Blane Osterman, Training Officer, Nebraska Department of Roads, Statehouse, P.O. Box 94759, Lincoln, NE 68509 (402) 479-4574
Cost/terms: Free loan, may duplicate
Description: This videotape, used with field demonstrations, is designed to make new employees familiar with snow plowing and ice removal, hooking up a plow and tailgate spreader, operating the plow and spreader controls, performing maintenance checks, understanding the method and purpose of spreader calibration, and following assigned routes.
Target audience: New operators

Start Smart Series 1 - Safely Controlling the Power of the Backhoe/Loader

Product: Videocassettes (VHS), facilitator's guide, participant's guide, post-viewing test
Date produced: 1992
Source: Video Information System Training Associates, Inc. (VISTA)
Contact: Ray Peterson, VISTA, P.O. Box 247, Burlington, WI 53105-0247 (414) 767-2100, Fax (414) 767-2106
Cost/terms: $395 purchase for complete package, rental $125 for seven days
Description: This three-part videocassette series on safely controlling the power of the backhoe/loader was developed to help operators, truck drivers and technicians to think "safety" in their daily routine. Videocassettes include:

- Walk Around the Backhoe Loader,
- On-the-Job Operating Safety Awareness, and
- Maintenance/Transportation.

Training packages include three videocassettes, a facilitator's manual, eight participant's manuals and eight post-viewing tests. Additional print support materials are available.
Target audience: Operators, truck drivers and repair technicians

Tilt-Bed Trailer Operation

Product: 2 videocassettes (VHS)
Date produced: 1985
Source: Nebraska Department of Roads
Contact: Blane Osterman, Training Officer, Nebraska Department of Roads, Statehouse, P.O. Box 94759, Lincoln, NE 68509 (402) 479-4574
Cost/terms: Free loan, may duplicate
Description: This videotape covers the essentials for developing basic skills in loading and towing highway equipment on the tilt-bed trailer. Emphasis is placed on daily maintenance, hook-up, and loading and towing the trailer.
Target audience: New operators

Towing: You Owe it to Yourself Series

Product: Videocassette, 10 minutes
Date produced: 1987
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape outlines the proper procedures for hook-up, towing, and disconnecting. (AV# 00569)
Target audience: Equipment operators

General/Management

Basic Construction Surveying

Product: Manual
Date produced: 1991
Source: Arizona T^2 Program
Contact: Don DeGraftenreid, Manager, Arizona T^2 Program, Arizona State University, CATSR/ Technology Transfer, College of Engineering, Tempe, AZ 85287-6306 (602) 965-2744
Cost/terms: Free copy, may duplicate
Description: This is a manual for a one-day workshop for city and county technicians. It covers the basic procedures and techniques for staking and construction surveying. It includes horizontal and vertical measuring, slope and break chaining, route surveying, earthwork measurements, and construction staking for sewer lines and curb and gutter.
Target audience: City and county technicians

Can a PC Help You?

Product: Videocassette (VHS)
Date produced: 1990
Source: University of Kansas Transportation Center
Contact: Carl Thor, Assistant Research Engineer, University of Kansas Transportation Center, 2011 Learned Hall, Lawrence, KS 66045 (913) 864-5658
Cost/terms: Free loan, cost $25
Description: This videotape provides a brief introduction to personal computer technology for rural transportation agencies, focusing on the factors to be considered when preparing to purchase a first system and stressing effective application of the technology. Points covered include assessment of needs, selection of software applications, selection of hardware, and some real world examples. (Copyright 1990 by University of Kansas Transportation Center)
Target audience: Engineers and public works management in counties and small cities

Claims, Pains and Automobiles: Municipal Roads and Tort Liability

Product: Text
Date produced: 1991
Source: Maine Local Roads Center
Contact: Pete Coughlan, Director, Maine Local Roads Center, Technical Services Division, Maine Department of Transportation, State House Station 6, Augusta, ME 04333 (207) 287-2151
Cost/terms: Free to T^2 Centers, $25 all others, may duplicate with proper credits
Description: This notebook explains in understandable and practical terms what realistic steps can be taken to reduce the possibility of a successful law suit against you and the municipality for which you work. Subjects

include the following: local highway law; the Maine Tort Claims Act; liability in roadway work zones; liability with road signs, signals, etc.; and how to reduce the possibility of a successful claim.
Target audience: Municipal officials, road commissioners, and public works personnel

Construction Inspection of Public Works Projects

Product: Course (16 hours)
Source: California Technical Transfer Center
Contact: David Hardy, Continuing Education Specialist, Institute of Transportation Studies Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax (510) 231-9589
Cost/terms: Available upon request
Description: Topics include:

- responsibilities and authority of the inspector;
- materials and methods of construction;
- field sampling and testing;
- developing the inspection plan;
- documentation practices;
- pipeline and concrete construction;
- protective coatings; and
- final inspections and project close-out.

Target audience: Inspectors, assistant inspectors and field engineers

Cooperative Procurement Program Manual

Product: Manual
Date produced: 1992
Source: Missouri Highway and Transportation Department
Contact: Jim Radmacher, P.E., Technology Transfer Engineer, Planning Division, Missouri Highway and Transportation Department, P.O. Box 270, Jefferson City, MO 65102 (314) 751-0852
Cost/terms: Available upon request
Description: This procedural manual explains the step necessary for a political subdivision to participate in joint purchasing.
Target audience: City, county, township officials

The Deposition

Product: Videocassette (VHS), 17 minutes
Date produced: 1991
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette shows how to provide an expert deposition. It is a companion piece to "Transportation Employee as a Witness" videocassette. (AV# 01367)
Target audience: Engineers

Design Concepts from AASHTO

Product: Course (24 hours)
Date produced: 1991
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, Texas A&M University System, Texas Engineering Extension Service, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: This course is designed to introduce the AASHTO guide on geometric design, the "Green Book." The course covers new concepts as well as significant design policies and guidelines contained in the Green Book.
Target audience: Highway engineering and design personnel

Determining Highway Needs and Setting Road Project Priorities in Indiana Counties

Product: Text
Date produced: 1986
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost/terms: One copy free, multiple copies at cost

Description: In this publication Jon D. Fricker and Joseph L. Shaffer present methods for setting road project priorities. The Index Rating Method, the Percentile Ranking Method, and the Successive Subsetting Ranking Method are discussed.
Target audience: Elected officials, managers

Extra Eyes on Maintenance

Product: Videocassette, 32 minutes
Date produced: 1988
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette shows how everybody can help maintenance workers reduce the chances of a tort suit. (AV# 00734)
Target audience: Supervisors, workers

Geographic Information Services

Product: Manual
Source: Arizona T^2 Program
Contact: Don DeGraftenreid, Manager, Arizona T^2 Program, Arizona State University, CATSR/Technology Transfer, College of Engineering, Tempe, AZ 85287-6306 (602) 965-2744
Cost/terms: Free
Description: This manual was developed as a workshop guide. It covers the development, applications and use of GIS systems.
Target audience: County and city engineers

Geographic Information Systems for Transportation

Product: Course, course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course introduces the basic concepts and functions of a geographic information system for transportation (GIS-T). It discusses how to establish a GIS-T in one's own organization and includes demonstrations of transportation applications using a variety of GIS software.
Target audience: Individuals with a previous background in GIS-T

Getting the Good Buy

Product: Videocassette, 43 minutes
Date produced: 1991
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch; $35 for VHS
Description: This videocassette provides an overview of the procedures to follow and the pitfalls to avoid in local bidding for purchasing equipment, materials, or services. (AV# 01368)
Target audience: Managers

Getting Your Message Understood: Communicating with Decision-Makers, Citizens and the Media

Product: Course, course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course teaches the fundamentals of verbal, nonverbal, and written communications and how to apply these fundamentals to become a more effective communicator with decision-makers, citizens, and peers. This course also covers specific strategies for providing concise information to newspapers, radio, and television media.
Target audience: Persons faced with the chal-

lenge of providing concise information to decision-makers, citizens and the media

A Guide to Federal-Aid Programs, Projects, and Other Uses of Highway Funds

Product: Manual
Date produced: 1992
Source: FHWA
Contact: Paul Scott (HNG-12), Highway Engineer, FHWA, 400 7th Street SW, Room 3132, Washington, DC 20590 (202) 366-4104
Cost/terms: Free
Description: This guide provides basic information about new programs, projects, and uses of highway funds authorized by the 1992 Intermodal Surface Transportation Efficiency Act (ISTEA); continuing programs, projects and uses of highway funds authorized by previous legislation and continued by the 1991 ISTEA; and inactive programs, projects and uses of highway funds that have existed in recent time.
Target audience: FHWA, state highway agencies, local governments and private sector personnel interested in a basic understanding of Federal-aid programs, projects or uses of highway funds

Handling Hazardous Wastes

Product: Manual
Date produced: 1987
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-0245 (504) 767-9116
Cost/terms: Public agencies one free copy/may duplicate; private $5/can't duplicate
Description: This manual covers the safe handling of hazardous materials and wastes, interpretation of the material data safety sheets, and emergency procedures to follow in case of a fire or a spill. (M7016A)
Target audience: Persons responsible for handling hazardous wastes

Hazards to Motor Vehicles and Pedestrians at Urban Construction Projects

Product: Videocassette (VHS), 8 minutes
Date produced: 1991
Source: Department of Civil Engineering, West Virginia University
Contact: Ronald W. Eck, Professor of Civil Engineering, West Virginia University, P.O. Box 6101, Morgantown, WV 26506 (304) 293-5580, ext. 627
Cost/terms: Free loan, may duplicate
Description: This videocassette uses footage from actual construction projects to increase the viewer's sensitivity to public safety problems at urban construction sites. Appropriate countermeasures are also identified and illustrated. The non-technical presentation is suitable for both field and office personnel.
Target audience: Project engineers, city officials, construction supervisors and foremen

HAZCOM Videos

Product: Two videocassettes and guidebooks
Source: National Asphalt Pavement Association
Contact: NAPA, NAPA Building, 5100 Forbes Blvd., Lanham, MD 20706-4413 (301) 731-4748
Cost/terms: $195 per set for NAPA members plus $5 shipping and $425 for non-members plus $5 shipping per set
Description: The first videocassette, "What's Wrong with this Picture?" (17 minutes) describes what is required by OSHA for the safe handling of industrial chemicals found at a typical hot mix asphalt facility. The videocassette shows how to fill out Material Safety Data Sheets (MSDS) using actual demonstrations. The second videocassette, "A Guide to Compliance - Supervisor Training," (16 minutes) illustrates how to keep a "Right-to-Know" program in compliance with the latest OSHA regulations.
Target audience: Hot mix asphalt facility owner/operators and employees

Highway Engineering Mathematics

Product: Self-study text
Date produced: 1988
Source: Nebraska Department of Roads

Contact: Blane Osterman, Training Officer, Nebraska Department of Roads, Statehouse, P.O. Box 94759, Lincoln, NE 68509 (402) 479-4574
Cost/terms: Free loan, may duplicate
Description: This self-study course is designed to impart technical mathematical data used within the agency.
Target audience: New employees

Highway Plan Reading

Product: Self-study course
Date produced: 1968
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy/may duplicate; private $17/can't duplicate
Description: This is a programmed self-study course on how to interpret and understand highway plans. (C0105A)
Target audience: Construction superintendents and foremen

Highway Plan Reading Course

Product: Self-study course, manual
Date produced: 1988
Source: Nebraska Department of Roads
Contact: Blane Osterman, Training Officer, Nebraska Department of Roads, Statehouse, P.O. Box 94759, Lincoln, NE 68509 (402) 479-4574
Cost/terms: Free loan, may duplicate
Description: This course is designed to teach highway plan reading.
Target audience: Construction inspectors and maintenance supervisors

Idea Store Series

Product: Videocassette (VHS)
Date produced: 1989-1991
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS each
Description: This series includes the following:

- Idea Store (8 minutes, 1989) - This videocassette describes ideas from municipalities across the nation on ways to make jobs safer, easier, or better. (AV# 00786)
- Idea Store #2 (13 minutes, 1989) - This is the second videocassette in the "Idea Store" series. (AV# 00867)
- Idea Store #3 (9 minutes, 1989) - This videotape features a plow blade lifter, grader daily maintenance, a spreader box, and retaining walls. (AV 01041)
- Idea Store #4 (10 minutes, 1990) - This videocassette features grates for cross drains, anti-snow/slush boards, a cross conveyor, a window guard using discarded tires, and a portable "road closed" barricade. (AV# 01160)
- Idea Store #5 (11 minutes, 1991) - This videocassette features the "horrible" hard hat, proper tire inflation, safetygrams, proper signing and an "adopt-a-sign" program. (AV# 01250)
- Idea Store #6 (17 minutes, 1991) - This videocassette features wildflowers, adopt-a-highway programs, light cages, fabricated posts, Roads Scholar programs, signs, a brainstorming box, and a safety packet. (AV# 01390)
- Idea Store #7 (10 minutes, 1992) - This videocassette features dump truck air foil, better cylinder wrench, curb scrapper, timber bridge information, and Delaware/Chester Public Works Association ideas. (AV# 01570)
- Idea Store #8 (10 minutes, 1993) - This videocassette features medical alert and medical information labels, how to avoid getting plowed on Montana's highways program, the fuel truck/welding marking light and a one person hand cart for mounting and dismounting the wing snow plow. (AV# 01705)

Target audience: Supervisors and work crews

Ideas That Make a Difference Series

Product: Videocassette, 10 minutes
Date produced: 1984-1991
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS each
Description: This is a series of videotapes covering ideas from the field, including the following:

- Ideas That Make a Difference #1 (10 minutes, 1984) - Ideas described in this videotape include barrier cleaning, a hose cover, a mud flap, barrier outside equipment cleaning procedure, a non-skid paint, edge of road patching and an oil distributor self-cleaning hose. (AV# 00129)
- Ideas That Make a Difference #2 (13 minutes, 1984) - This videotape describes winter season training, double-tipped blades, a high-visibility door lighted shift reminder, an accountability board, and a hydraulic tester. (AV# 00137)
- Ideas That Make a Difference #3 (13 minutes, 1984) - This videotape features a quality circle philosophy, a baby seat loan program, lifting collar post pounder, idea brainstorming, and a checklist for construction inspectors. (AV# 00168)
- Ideas That Make a Difference #4 (10 minutes, 1984) - This videotape features an information center, a plow blade rack, a modified paint gun, a truck bed modification, a project checklist, and a bridge deck. (AV# 00203)
- Ideas That Make a Difference #5 (12 minutes, 1985) - This videotape describes computer use, a roller lock, traffic truck tire pressure, and crew training. (AV# 00232)
- Ideas That Make a Difference #6 (13 minutes, 1985) - This videotape features a paint truck, plow modification, light bulb changing, idea submission, a bridge truck, and personal computer use. (AV# 00235)
- Ideas That Make a Difference #7 (14 minutes, 1985) - This videotape features a hot plate box, a training plan, a slab lifter, a band tightener, a spinner modification, a plain meter, and a pintle hook hitch. (AV# 00247)
- Ideas That Make a Difference #8 (9 minutes, 1985) - This videotape features a magnetic assignment board, painting garage malls, Essicks roller to plow frame, a steam jenny arrangement, a truck with portable water tank and concrete saw, compressor truck modifications, tar buggy modifications, and garage-office area renovations. (AV# 00272)
- Ideas That Make a Difference #9 (15 minutes, 1986) - This videotape features the "best darn lube truck modifications" in the state, anti-skid spreader modification, portable steps for truck servicing, a mirror maze, outdoor inspection bay, pizza-oven cold patch warmer, a roll-up tarp for trucks, and a rear-light cover for trucks. (AV# 00422)
- Ideas That Make a Difference #10 (17 minutes, 1987) - This videotape features a hydraulically controlled post puller and work zone traffic control. (AV# 00516)
- Ideas That Make a Difference #11 (11 minutes) - This videotape describes a sign gauge for an oil tank, an oil tank safety ladder, an aluminum step-up ladder, a protective shield, storage additions to an arrow board, a flexible baffle on a snow plow, boat rollers for air compressors, and color-coded pipes in garages. (AV# 00594)
- Ideas That Make a Difference #12 (17 minutes, 1988) - This videotape features a portable battery tester; crimping, cutting and fitting hydraulic hoses; a safety light for an auger box; a portable boot cleaner; one post chevron installation; fork lift trailer hitching; and the snow fighting excavator. (AV# 00650)
- Ideas that Make a Difference #13 (26 minutes, 1988) - This videotape features a portable F.L.O.C. unit, a spreader rack system, mounted cutting torches, truck bed material, truck mounted trouble light, and universal maintenance. (AV# 00779)
- Ideas that Make a Difference #14 (17

minutes, 1990) - This videocassette features ideas from Tioga County, Pennsylvania including a key chain, high visibility gloves, a chain box tire hoist, a post remover, a plow jack, pilot-lighting burner switch, tar buggy drain tanks, a PVC plug remover, a dust collector, and more. (AV#01125)

- Ideas That Make a Difference #15 (28 minutes, 1990) - This videocassette features a clerical procedures manual, a benefits center, a snack bar, toluene waste blending and solvent recovery, dump truck night visibility, waste materials containment site, windshield brush guards, crew cab side mirror, spill prevention kits, a portable oil distributor, and wheel securing chocks. (AV#01308)
- Ideas That Make a Difference #16 (38 minutes, 1991) - This videocassette features a rest room blood pressure kit, interagency cooperation on wetlands, additional parking spaces, employee involvement recognition stickers, a redesigned cap and bed for a survey truck, fuel truck safety rails and catwalk, a snow plow blade changing cart, a thermolay patching unit, and a berm box modification. (AV#01392)

Target audience: Supervisors and work crews, general

Indiana Model Zoning Ordinance

Product: Manual
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost/terms: First copy free, additional copies $10 each; Text on computer disk $25
Description: This text, written by T. William Patterson, incorporates all the current requirements of Indiana law. It relies heavily on planned unit development. The model zoning ordinance has the following sections: General Provisions and Enforcement, Definitions, Districts, Authorized Uses, Use Requirements and Restrictions, Planned Development, Design Review, Committees, Board of Zoning Appeals, and Improvement Location Permits.
Target audience: Elected officials, managers, planning officials

Introduction to Microcomputers and Applications

Product: Course, course materials, computer programs
Source: William M. Sampson (except programs)
Contact: William M. Sampson, McTrans Manager, University of Florida, 512 Weil Hall, Gainesville, FL 32611-2083 (904) 392-0378
Cost/terms: May copy handout, course available
Description: This course, designed for the novice, includes basic "hands-on" instruction from how to start the machine to the primary commands. Applications to the transportation field are outlined, including word processing, database and spreadsheet applications, and a variety of available transportation software. A short handout on the basic functions and commands, and three shareware programs, are provided. Other programs are available from McTrans.
Target audience: Novice microcomputer users

Introduction to Microcomputer Applications

Product: Manual
Date produced: 1991
Source: Arizona State University T² Center
Contact: Don DeGraftenreid, Manager, T² Program, Arizona State University, Engineering and Applied Sciences, Tempe, AZ 85287-6306 (602) 965-2744
Cost/terms: Free copy, may duplicate
Description: This one-day workshop covers microcomputer applications in highway activities. The workshop includes the following topics: microcomputer hardware and software, software for transportation, how to select a microcomputer, spreadsheet and database applications, and special individual applications.
Target audience: Engineers and managers

10/20/93

Introduction to Microcomputers Workshop
Product: Course, course materials
Date produced: 1990
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course provides hands-on experience using a microcomputer system and software packages. Participants learn the components of the system and their functions. They also learn the fundamental Disk Operating System (DOS) commands.
Target audience: Managers, planners or any novice faced with the need to use a microcomputer

Introduction to Surveying
Product: Slides, handbook
Source: Louisiana Department of Transportation
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies six-week loan/may duplicate; private $5 for handbook, $25 to loan audiovisual/can't duplicate
Description: Slides (80) and a handbook provide an introduction to surveying equipment (level, transit, tape, etc.), terms, signals, and safety. No. C 0200A
Target audience: New construction employees

Just Another Job
Product: Videocassette, 44 minutes
Date produced: 1989
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: Videocassette and workbook describe the steps the department must pursue in programming, designing, letting, and constructing a project from its inception to its completion. (AV# 00821)
Target audience: Management

Kopy Kit
Product: Safety articles
Source: Parlay International
Contact: Parley International, 5900 Hollis Street, Suite Q, Emeryville, CA 94608 (510) 601-1000
Cost/terms: $259 for 147 pages, may duplicate
Description: This series of reproducible pages on health and safety includes articles on safety awareness, accident and injury prevention, personal health, and first aid. Topics include: hazard communication, lifting basics, carpal tunnel syndrome, basic rules for power tools, defensive driving, winter driving tips, and avoiding slips and falls.
Target audience: General

Leading and Building Your Team
Product: Manual (68 pages)
Date produced: 1991
Source: Cornell Local Roads Program
Contact: Toni Rosenbaum, Program Manager, Cornell Local Roads Program, 416 Riley Robb Hall, Ithaca, NY 14853-5701 (607) 255-8033
Cost/terms: Free to highway and public works officials, $5 to others
Description: This manual, developed for a new course, includes materials on the factors affecting human behavior, different types of human needs people, how a supervisor's assumptions about people affect leadership style, the difference between a work force and a team, the difference between a supervisor and a leader, hiring new members of a team, and performance evaluations. (CLRP Report #91-9)
Target audience: Supervisors

Linear Surveying
Product: Self-study course
Date produced: 1985
Source: Louisiana Transportation Research Center

Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy; private $10/can't duplicate
Description: This programmed self-study text covers horizontal taping, inclined taping, use of stadia hairs, and electronic distance meters. Students should have taken an introductory course on surveying. (C 201A)
Target audience: Construction and surveying personnel

Lines, Levels and Layouts - a Workshop on Basic Surveying

Product: Manual prepared for workshop
Date produced: 1992
Source: Maine Local Roads Center
Contact: Pete Coughlan, Director, Maine Local Roads Center, Technical Services Division, Maine Department of Transportation, State House Station 16, Augusta, ME 04333 (207) 287-2151
Cost/terms: Free to all T^2 Centers, $25 to all others
Description: This workshop notebook presents the basic principles of horizontal and vertical measurement. This information is ideal for local road personnel who replace culverts, grade road surfaces, maintain ditches, etc. Subjects include:

- using tapes, rods, and "pop" levels to measure horizontal and vertical distances;
- taking notes and keeping records;
- making simple measurements to properly install culverts, ditch roadsides, "stake out" road work, etc; and
- using reference charts, conversion tables, and simple equations in road work.

Target audience: Local road personnel, foremen, public works staff

Maintenance Mathematics Volume 1 and 2

Product: Self-study text
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, 4101 Gourrier Avenue, Baton Rouge, LA 70808 (504) 767-9116
Cost/terms: Public agencies one free copy; private $16, can't duplicate
Description: This programmed self-study text is designed for superintendents, foremen, and clerks to help them compute amount of material, number of hours, and labor needed to complete various maintenance tasks. Volume 1 covers mathematical functions. Volume 2 covers averages, percents, volume changes and ratios, rates and unit costs, converting weights and measures, and calculating areas and volumes. (Vol. 1 M7011A, Vol. 2 M7012A)
Target audience: Maintenance supervisors and crews

Management and Supervisory Skills Workshop

Product: Course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course covers basic management and supervisory techniques which will assist the newly promoted manager/supervisor in planning, directing, motivating, and making decisions in an efficient manner.
Target audience: City, county and State transportation and public works personnel who have been recently promoted to a management or supervisory position

Management Training for Highway and Public Works Professionals

Product: Manual
Date produced: 1991
Source: Arizona T^2 Program
Contact: Don DeGraftenreid, Manager, Arizona T^2 Program, Arizona State University, CATSR/Technology Transfer, College of Engineering,

Tempe, AZ 85287-6306 (602) 965-2744
Cost/terms: Free copy
Description: This manual features ways to build effective public works/highway department teams. It covers the marks of a "healthy team," taking care of business, and taking care of yourself. It also covers maintenance management systems, including preparing and presenting budgets, scheduling maintenance and construction activities, and monitoring for results.
Target audience: City/county/State engineers, public works directors, street supervisors

Mathematics for Surveyors

Product: Self-study text
Date produced: 1984
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies 6-weeks loan/may duplicate; private $10/can't duplicate
Description: This programmed self-instructional text provides a review of basic mathematics for construction personnel. It includes basic trigonometry, mathematics for linear surveying (working with angles and simple triangles), and mathematics for leveling (volumes and areas). (C0203A)
Target audience: Construction workers

Metric for the Workplace (Construction)

Product: Course, videocassette (VHS, 6 titles, 20 minutes each)
Date produced: 1992
Source: Workplace Training
Contact: Paul Hansenn, Customer Satisfaction, Workplace Training, 1445 Westwood Drive, Mound, MN 55364 (800) 472-2564
Cost/terms: $895 - $1,395
Description: This course utilizes videocassettes and workbook to teach metric as it relates to construction. Call for brochure.
Target audience: State, county and municipal construction staff

New Hampshire Quick Guides

Product: Fact sheets
Source: New Hampshire T^2 Center
Contact: John Anderson, Director, New Hampshire T^2 Center, University of New Hampshire, Department of Civil Engineering, Transportation Research and Computation Group, Durham, NH 03824-3591 (603) 862-4348
Cost/terms: T^2 Centers may use information in guides
Description: This set of ten "Quick guides" are used by the New Hampshire T^2 Center in conjunction with demonstration shows which include samples of erosion control products on display and demonstration of the techniques and procedures shown in the "quick guides." They cover the following:

- Culvert Installation and Maintenance,
- Ditch/Channel Construction and Maintenance,
- Vegetative Erosion and Sediment Control,
- Non-Vegetative Erosion and Sediment Control,
- Cut and Fill Slopes,
- Beaver Pipe: Construction and Maintenance,
- Stormwater Inlets and Catch Basins,
- Mowing and Brush Control,
- Snow and Ice Control, and
- Obtaining Permits.

Target audience: Local road officials

Presentation Skills for Transportation Professionals

Product: Course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course is designed to teach the strategies needed to capture an audience's attention and get the desired results. Participants learn how to:

- determine an audience's needs, beliefs, and expectations;

- research and prepare effective presentation plans;
- project a confident image even with the most hostile audience;
- use nonverbal techniques that enhance rather than detract from the presentation material; and
- give a successful interview with the media.

Target audience: State and local government officials or anyone who must speak in public

Project Management and Claims Avoidance

Product: Course (16 hours)
Source: California Technology Transfer Center
Contact: David Hardy, Continuing Education Specialist, Institute of Transportation Studies Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax (510) 231-9589
Cost/terms: Available upon request
Description: This course covers all types of public works construction. Topics include:

- organizing;
- supplying and operating a field office;
- planning, scheduling and documentation;
- contracts and specifications;
- public contracts law;
- safety procedures;
- measurement and pavement; and
- dealing with claims and disputes.

Target audience: On-site engineers and project managers

Resource Catalog

Product: Catalog of resource material
Date produced: 1993
Source: Cornell Local Roads Program
Contact: Toni Rosenbaum, Program Manager, Cornell Local Roads Program Technology Transfer Center, 416 Riley-Robb Hall, Ithaca, NY 14853-5701 (607) 255-8033
Cost/terms: One copy free, may duplicate
Description: In 1993 the Cornell Local Roads Program combined several small publications into this one document. It contains computer software program reviews, computer user's directory, training programs offered, publications guide, and videotape lending library.
Target audience: General

Right-to-Know, Part 1: The Workplace

Product: Videocassette (VHS), 13 minutes
Date produced: 1989
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette provides detailed information on the Right-to-Know Act. It may be used for new employee orientation and/or as part of employee training. (AV# 01037)
Target audience: All personnel

Right-to-Know, Part 2: The Garage

Product: Videocassette (VHS), 9 minutes
Date produced: 1989
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: When used with Part 1 of this series, *Right-to-Know, Part 1: The Workplace*, this videocassette provides specific work site information for employees who work in garage areas. (AV# 01038)
Target audience: Garage employees

Right-to-Know: The Highway

Product: Videocassette, 7 minutes
Date produced: 1989
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527

Cost/terms: Copies approximately $45 for 3/4-inch; $35 for VHS
Description: This videocassette, to be used with *Right-to-Know: The Garage* and *Right-to-Know: The Workplace*, is work site specific for employees engaged in highway/bridge work. (AV#01039)
Target audience: Highway employees

Risk Management and Minimizing Tort Liability for Local Highway Departments

Product: Manual (108 pages) includes index
Date produced: 1989
Source: Cornell Local Roads Program
Contact: Toni Rosenbaum, Project Manager, Cornell Local Roads Program, 416 Riley Robb Hall, Ithaca, NY 14853-5701 (607) 255-8033
Cost/terms: Free to highway and public works officials, $5 to others
Description: This training manual was originally developed for a training course on risk management and tort liability taught in New York State. The manual serves as a basic reference publication on principles of risk management and tort liability suitable for highway and public works officials and others responsible for maintaining and managing public highways.
Target audience: Highway and public works officials

Risk Management to Reduce Highway Tort Liability

Product: Course (24 hours)
Date produced: 1990
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, Texas A&M University System, Texas Engineering Extension Service, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: This course covers the key concepts of risk management, and activities related to potential and actual law suits, including pre-trial, trial, and post-trial activities. The course includes a mock trial workshop.
Target audience: Personnel responsible for road design, construction, maintenance and attorneys

Risk Management: Tort Litigation

Product: Videocassette, 20 minutes
Date produced: 1984
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, Pennsylvania 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape covers involvement in tort claims and is designed to outline in easy-to-understand terms and concepts the things that get us, as a department, involved in tort claims. It also describes methods to avoid such claims. The videotape follows a new assistant county manager as he is briefed on risk management procedures. (AV# 00681)
Target audience: Managers, engineers, and clerical staff

Road Maintenance Cost Analysis Part 4: Presentation of the Budget Data to County Commissions and City Councils

Product: Videocassette, 40 minutes
Source: Montana State University
Contact: John Hopkins, Director, LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717-0390 (406) 994-6100
Cost/terms: Free loan
Description: This videotape presents the principles of zero-based budgeting and emphasizes the importance of proper budget presentation so that everyone can see the benefits, priorities, and services that are to be provided.
Target audience: Councilmen or county commissioners

Roadway Management and Tort Liability in Wisconsin

Product: Fact sheet
Date produced: 1990
Source: Wisconsin Transportation Information Center
Contact: Robert Fey, Program Director, Wisconsin Transportation Information Center, Univer-

sity of Wisconsin-Madison, 432 North Lake Street, Madison, WI 53706 (608) 262-8592
Cost/terms: Free, may duplicate
Description: This fact sheet discusses tort liability in Wisconsin and its development as a result of court rulings. It also presents recommendations for administrative and roadway management practices. Some suggestions for developing local policy are given, in specific areas, which can help reduce exposure.
Target audience: Local roads staff and elected officials

Safety Program

Product: Publications
Date produced: 1991-present
Source: Various
Contact: Nancy Robinson, Publications Editor, Kentucky Transportation Center, University of Kentucky, 211 Transportation Research Building, Lexington, KY 40506-0043 (606) 257-4513
Cost/terms: Free copy to any T^2 Center, may duplicate
Description: The Safety Program is a set of materials to help provide safety education and awareness. It includes safety brochures and bulletins and question and answer sheets addressing various aspects of safety, including traffic safety, worker safety and pedestrian safety. Additional materials are issued bimonthly.
Target audience: County judges, mayors, public works directors, road supervisors and transportation coordinators, local officials, media, schools

Safety Shorts Series

Product: Videocassettes
Source: Safety Shorts
Contact: David Dunn, Vice President/General Manager, Safety Short Production Inc., 2960 North 23rd Street, LaPorte, TX 77571-3182 (800) 458-2236
Cost/terms: Subscription plans, call contact
Description: This series of over 200 titles can be used for safety training of employees. The company also offers videocassettes in Spanish and closed caption. Topics include: back safety, driving safety, eye safety, general safety and motivation, heavy equipment, slips and falls, tool and equipment safety, trenching and shoring, compliance, and welding safety.
Target audience: General

SI Metric for the Workplace

Product: Videocassette and workbook
Source: Workplace Training
Contact: Workplace Training, 1445 Westwood Drive, Mound, MN 55364 (612) 472-2564
Cost/terms: $2,400 per set
Description: This courseware uses videocassettes and workbooks to train technical personnel in proper metric usage. Support material includes a workbook with pre and post-tests, vocabulary, and guided note taking outline; overhead transparencies; and a facilitator's guide. The package contains:

- Lesson 1 - Introduction to Metric,
- Lesson 2 - Units of Measure,
- Lesson 3 - Reading and Writing Rules,
- Lesson 4 - Limits, Fits and Tolerances,
- Lesson 5 - Metric Conversion I, and
- Lesson 6 - Metric Conversion II

Target audience: General

Small Highway Department Management

Product: Manual
Source: Cornell Local Roads Program
Contact: Toni Rosenbaum, Program Manager, Cornell Local Roads Program, 416 Riley-Robb Hall, Ithaca, NY 14853-5701 (607) 255-8033
Cost/terms: Free to highway and public works officials, $5 to others
Description: This manual covers eight important highway department administrative topics:

- department organization;
- budget preparation and presentation;
- scheduling;
- winter snow and ice control;
- complaints;
- managing your clear zone;
- administration of bridge and culvert inspections; and
- road weight postings.

The manual is targeted to recently elected or appointed superintendents who supervise a staff of less than 25.

Target audience: Town and village superintendents

So You're Gonna Make a Video

Product: Videocassette, 23 minutes
Date produced: 1988
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch; $35 for VHS
Description: This videocassette provides an overview of all aspects of preparing a videocassette, from planning to completion, which will turn your next production into a successful training tool. (AV# 01391)
Target audience: Trainers and managers

Subdivisions: A Local Dilemma

Product: Videocassette (VHS), 30 minutes
Source: Montana State University LTAP Program
Contact: John Hopkins, Director, LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717-390 (406) 994-6100
Cost/terms: Free loan
Description: This videotape uses examples from Montana's cities and towns to illustrate the basic principles and the reasons for proper planning. These principles and regulations are applicable to other locations.
Target audience: Commissioners, public works directors and planners

Subsurface Utility Engineering

Product: Videocassette (VHS), 13 minutes
Source: FHWA
Contact: Paul Scott (HNG-12), Federal Highway Administration, Office of Engineering, 400 7th Street SW, Room 3132, Washington, DC 20590 (202) 366-4104
Cost/terms: Free copy, may duplicate but cannot sell
Description: This videocassette describes the use of subsurface utility engineering to provide accurate information on the horizontal and vertical location of underground utility facilities during the early development of highway projects so that highway/utility conflicts can be avoided.
Target audience: FHWA, state and local agencies, public and private utilities personnel

Subsurface Utility Engineering Handbook

Product: Manual
Date produced: 1993
Source: Federal Highway Administration
Contact: Paul Scott (HNG-12), Federal Highway Administration, Office of Engineering, 400 7th Street SW, Room 3132, Washington, DC 20590 (202) 366-4104
Cost/terms: Free copies available upon request
Description: Subsurface Utility Engineering (SUE) is an engineering service that incorporates new and existing technologies so that underground utility facilities can be accurately located and mapped during the early development of a highway project. This allows cost effective design decisions to be made and results in savings to highway agencies and utilities. The SUE Handbook answers some basic questions about SUE, such as: what is SUE?; why use SUE?; who pays for SUE?; who is using SUE?; and what is in the future for SUE?
It also provides some useful information about SUE, such as:

- a sample state request for letters of interest;
- a sample state request for proposals;
- a sample state/consultant agreement;
- suggested FHWA criteria for evaluating firms that provide SUE services;
- savings and cost information;
- names, addresses and telephone numbers of SUE providers and people to contact to find out more about SUE, and
- copies of printed articles about SUE.

Target audience: Utility and highway professionals

Tort Awareness

Product: Videocassette, 34 minutes
Date produced: 1988

Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette provides a general information to tort suits, and how they impact on the Department. (AV# 00733)
Target audience: General interest

Tort Liability and Risk Management

Product: Manual
Date produced: 1992
Source: Arizona T^2 Program
Contact: Don DeGraftenreid, Manager, Arizona T^2 Program, Arizona State University, CATSR/Technology Transfer, College of Engineering, Tempe, AZ 85287-6306 (602) 965-2744
Cost/terms: Free
Description: This manual was developed as a workshop guide. It covers recognition, evaluation, documentation, and liabilities of risks that may be encountered by municipalities.
Target audience: County and city engineers, lawyers and law enforcement personnel

Tort Liability for Maintenance

Product: Videocassette (VHS)
Date produced: 1991
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, 4101 Gourrier Avenue, Baton Rouge, LA 70808 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; Private $120 to buy, no loan/no duplication
Description: This videocassette provides an introduction to transportation-related tort liability. It covers the seriousness of the problem, Department of Transportation and Development's responsibilities, legal terms, an explanation of present laws, summaries of pertinent court cases with an explanation of who was held accountable and why, and how to prevent or correct the problem. (M7025A)
Target audience: Maintenance administrators, supervisors and crews

Torts are Everybody's Business

Product: Videocassette (VHS), 5 minutes
Date produced: 1992
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette provides an introduction to tort and its significance for the Pennsylvania Department of Transportation. It is designed for new employee orientation. (AV# 01518)
Target audience: New employees

Transit Surveying

Product: Self-study text
Date produced: 1985
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy; private $10/can't duplicate
Description: This programmed self-instructional text covers the operation and field use of the transit, including turning angles, projecting a line ahead, measuring deflection angles, computing and staking out highway curves, and moving up on a curve. (C0204A)
Target audience: Construction personnel

Transportation Employee as a Witness

Product: Videocassette (VHS), 24 minutes
Date produced: 1990
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employ-

ees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette is designed for an employee who is scheduled to appear as a witness in court. It presents procedures, demeanor and expected conduct. (AV# 01170)
Target audience: Engineers

Transportation Impacts of Land Development

Product: Course (16 hours)
Source: California Technology Transfer Center
Contact: David Hardy, Continuing Education Specialist, Institute of Transportation Studies Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax: (510) 231-9589
Cost/terms: Available upon request
Description: This course offers training in the following topics:

- review/preparation of development proposals;
- preparation of traffic impact studies which ensure that development project access is designed so that the on-site circulation provides safe and efficient traffic flow;
- establishment of programs to address cumulative impacts of new developments such as traffic impact fees;
- ensuring compliance with geometric design standards and meeting parking needs within new development; and
- use of software in impact studies and capacity analysis.

Target audience: Transportation planners, engineers and consultants

Without Due Process

Product: Videocassette, 7 minutes
Date produced: 1986
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette shows the hazards of overhead wiring to highway equipment. (AV# 00393)
Target audience: Equipment operators and supervisors

Writing Skills for Transportation Professionals Workshop

Product: Course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course covers the specific strategies needed to strengthen writing skills; master the essentials for writing reports, proposals, memos and letters; overcome "writer's block;" edit technical information effectively; and identify and correct common problems of grammar and punctuation.
Target audience: State and local government officials, transportation and planning professionals

Your Summer Job/Your Summer Safety

Product: Videocassette (VHS), 6 minutes
Date produced: 1990
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette provides an introduction to highway safety for summer employees. (AV# 01140)
Target audience: Supervisors and summer employees

Operations

Arterial Analysis Package Training Course

Product: Course
Date produced: 1991
Source: Transportation Research Center, University of Florida
Contact: Charles E. Wallace, Director, Transportation Research Center, University of Florida, 512 Weil Hall, Gainesville, FL 32611 (904) 392-0378
Cost/terms: Ask contact
Description: This comprehensive training course in the use of the new Arterial Analysis Package (AAP) includes the package's component programs: PASSER II-90 and TRANSYT-7F. The course covers the operations of the AAP, data coding, modeling details of the components, and applications guidelines. The course also covers signal timing elements and implementation guidelines.
Target audience: Traffic engineers and transportation planners

Basic Flagging Procedures

Product: Slides, handout
Date produced: 1991
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies six-week free loan/may duplicate; private $25 handling fee for loan/can't duplicate
Description: This audiovisual program uses 52 slides and a handout to cover the correct flagging procedures to be used by maintenance crews. (M4001B)
Target audience: Maintenance work crews

Basic Traffic Engineering

Product: Course (24 hours)
Date produced: 1989
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, Texas A&M University, Texas Engineering Extension Service, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: This course covers signing, pavement markings, signal systems, traffic studies, legal aspects, program management, public relations, pedestrian and bicycle facilities, and other traffic operations subjects.
Target audience: Technical personnel in traffic operations

Bulk Salt Storage Buildings

Product: Videocassette, 18 minutes
Date produced: 1981
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape provides a visual review of a standard contract for dome salt buildings. It includes a workbook. (AV# 00487)
Target audience: Maintenance crews, supervisors

Construction Inspection for Traffic Signals and Highway Lighting Systems

Product: Course (24 hours)
Source: California Technology Transfer Center
Contact: Susan Ker, Manager of Engineering Training, Institute of Transportation Studies Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax (510) 231-9589
Cost/terms: Available upon request
Description: This course provides engineers with the information needed to successfully install and complete traffic signal and/or street lighting projects in compliance with contract specifications.
Target audience: Transportation and traffic engineers and inspectors

Flagging: Work Zone Traffic Control

Product: Videocassette, 11 minutes
Date produced: 1986
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape describes the how and why of flagging. (AV# 00420)
Target audience: Flaggers and road foremen

Flagging and the Flagger

Product: Videocassette, 19 minutes
Date produced: 1987
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape shows the importance of the flagging responsibility in various situations, such as two lane, four lane or intersections. (AV# 00672)
Target audience: Flaggers supervisors

Flagging in Construction and Maintenance Work Zones

Product: Course (4 hours)
Date produced: 1991
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, TEEX, Texas A&M University System, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: This course stresses the importance of the flagger's duties and offers demonstrations of proper flagger attire, positioning and techniques. It also includes practical exercises on common flagging situations.
Target audience: Personnel involved with flagging operations

Fundamentals of Traffic Engineering

Product: Course (40 hours)
Source: California Technology Transfer Center
Contact: Susan Ker, Manager of Engineering Training, Institute of Transportation Studies Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax (510) 231-9589
Cost/terms: Available upon request
Description: This course presents a through introduction to traffic engineering. Topics include:

- transportation goals and characteristics and

human and vehicular factors;
- analysis of volume, speed, travel time, accidents, and parking;
- traffic stream characteristics;
- roadway and intersection capacity;
- geometric design;
- traffic flow analysis;
- traffic speed and intersection control;
- signalization;
- transportation planning and system management; and
- environmental and energy considerations.

Target audience: Newly assigned traffic engineers for city, county and state agencies.

Handbook on Accident Reconstruction

Product: Manual
Date produced: 1993
Source: Department of Civil Engineering, West Virginia University
Contact: Ronald W. Eck, Professor of Civil Engineering, West Virginia University, P.O. Box 6101, Morgantown, WV 26506-6101 (304) 293-3031 ext. 627
Cost/terms: $20, make check out to National Transportation Center - West Virginia University
Description: This manual provides an introduction and overview of the accident investigation and reconstruction process. At-scene and after-accident investigation and data collection are discussed. Collection techniques for roadway, vehicle, and other accident-related data are described. Common techniques used in accident reconstruction are presented along with underlying assumptions and limitations. Key issues involved in reconstruction of commercial vehicle, motorcycle and pedestrian accidents are also outlined.
Target audience: Traffic engineers, law enforcement personnel, claims investigators and attorneys

Highway Capacity

Product: Course (32 hours)
Date produced: 1987
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, Texas A&M University System, Texas Engineering Extension Service, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: This course explains the contents of the new Highway Capacity Manual. It covers basic concepts, weaving areas, ramps, freeway systems, signalized and unsignalized intersections, urban and suburban arterials, and multilane highways. The course also includes a problem-solving workshop using microcomputer software.
Target audience: Engineers and experienced technicians

Highway Capacity

Product: Course (24 hours)
Source: California Technology Transfer Center
Contact: David Hardy, Continuing Education Specialist, Institute of Transportation Studies Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax (510) 231-9589
Cost/terms: Available upon request
Description: This workshop focuses on the methods used to analyze operations and level of service on multi-lane and two-lane highways, ramps, weaving sections, signalized intersections and unsignalized intersections. Traffic stream characteristics and highway capacity analysis techniques from the 1985 *Highway Capacity Manual* with relevant updates are presented.
Target audience: Traffic and transportation engineers

Highway Capacity Analysis Training Course

Product: Course
Date produced: 1990
Source: Transportation Research Center, University of Florida
Contact: Charles E. Wallace, Director, Transportation Research Center, University of Florida, 512 Weil Hall, Gainesville, FL 32611 (904) 392-0378
Cost/terms: Ask contact
Description: This comprehensive course in capacity analysis for signalized intersections (two-day) or for all chapters of the Highway

Capacity Manual (five-day) covers the theory and procedures for the analysis of capacity and determination of the level of service. The course also covers the application of the Highway Capacity Software (HCS), including data coding, modeling, and interpreting results.
Target audience: Traffic engineers and transportation planners

Highway Capacity Manual

Product: Manual
Date produced: 2nd edition, 1993
Source: Transportation Research Board
Contact: Transportation Research Board, Publications Sales, Box 289, Washington, DC 20055 (202) 334-3214
Cost/terms: $70
Description: The Highway Capacity Manual is a loose-leaf collection of procedures and methodologies for estimating the capacity of freeways, rural highways, and urban streets. It includes definitions, examples, step-by-step instructions for using estimating techniques, and information on how to get the most service from existing roads instead of building new roads. Companion software is available from McTrans. (See the McTrans listing in Other Resources in this catalog.) Includes updated chapters released in 1992.
Target audience: Transportation engineers

Highway Capacity Manual (1985)

Product: Course(s)
Date produced: 1987, revised 1993
Source: North Carolina T^2 Program at Institute for Transportation Research and Education
Contact: Robert S. Foyle, Associate Director for Programs, Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619 (919) 878-8080
Cost/terms: Two-day $100-150, three-day $150-225, four-day $175-300 (per participant)
Description: These are two-day, three-day, and four-day workshops on selected chapters and/or all of chapters 1-11, including the new chapter 7, of the 1985 Highway Capacity Manual with appropriate problem and answer sets. These workshops are designed to meet the needs of local, State and Federal government personnel with interests in planning, traffic engineering, roadway design, and uninterrupted and interrupted flow. Hands-on use of the Highway Capacity Software (latest version) is also available.
Target audience: Traffic engineers, planners, and roadway/highway designers

Inspecting and Evaluating Short Term Operations

Product: Videocassette and workbook
Date produced: 1983
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette covers work-zone traffic control. (AV# 00205)
Target audience: Supervisors and work crews

Inspection of Work Zone Safety Hardware

Product: Course (8 hours)
Date produced: 1990
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, Texas A&M University System, Texas Engineering Extension Service, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: The purpose of this course is to instruct construction and maintenance personnel on the correct traffic control design for work zones. The course covers how devices are correctly applied to guide motorists through construction zones.
Target audience: Lower-level project personnel and construction inspectors

Life in the Closed Lane

Product: Videocassette (VHS), 38 minutes
Source: American Traffic Safety Services Association

Contact: Mike Shalley, American Traffic Safety Services Association, 5440 Jefferson Davis Highway, Fredericksburg, VA 22407 (703) 898-5400
Cost/terms: ATSSA members and public officials $24.95, others $49.95
Description: This videotape (part one - 20 minutes and part two - 18 minutes) is a safety training program for workers involved in installing, servicing and removing traffic control zones. It emphasizes personal safety practices on the job, including safe driving practices.
Target audience: Those who work in or near traffic control area

Maintenance of Signs and Pavement Markings

Product: Course (16 hours)
Date produced: 1989, updated 1992
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, Texas A&M University System, Texas Engineering Extension Service, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: This course is designed to cover the preventive maintenance of signs and pavement markings as well as record keeping and inventory of traffic control devices. It is intended for personnel with limited maintenance and supervisory experience.
Target audience: State and local maintenance personnel

Maintenance Traffic Control Handbook

Source: Louisiana Transportation Research Center
Date produced: 1991
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, 4101 Gourrier Avenue, Baton Rouge, LA 70808 (504) 767-9116
Cost/terms: Public agencies one free copy, private $7/can't duplicate
Description: This manual provides a current guide for typical maintenance operations by representing the normal or more common conditions that exist at maintenance work sites. The traffic control devices shown, the arrangement or position of the devices, and the distance prescribed in the tables are all in accordance with the *Manual on Uniform Traffic Control Devices* (MUTCD).
Target audience: Maintenance supervisors and crews

New Directions in Sign Management

Product: Videocassette (VHS), 15 minutes
Source: American Traffic Safety Services Association
Contact: Mike Shalley, American Traffic Safety Services Association, 5440 Jefferson Davis Highway, Fredericksburg, VA 22407 (703) 898-5400
Cost/terms: ATSSA members and public officials $24.95, others $49.95
Description: This videocassette describes how local jurisdictions can develop maintenance programs to include inventory, evaluation and scheduled replacement.
Target audience: City, county and other local jurisdictions

Nighttime Traffic Control in Work Zones

Product: Videocassette (VHS), 18 minutes
Source: American Traffic Safety Services Association
Contact: Mike Shalley, American Traffic Safety Services Association, 5440 Jefferson Davis Highway, Fredericksburg, VA 22407 (703) 898-5400
Cost/terms: ATSSA members and public officials $24.95, others $49.95
Description: This videocassette shows the need to provide special treatment for traffic control zones that remain in effect during hours of darkness. It also demonstrates the visual differences between the same setup during day and night.
Target audience: Those responsible for work zone traffic control

Optimizing Traffic Safety in Major Work Zones

Product: Course (16 hours)
Date produced: 1989

Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, Texas A&M University System, Texas Engineering Extension Service, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: This course introduces procedures which can be used to prevent accidents by detecting and solving work zone problems. It covers work zone accident patterns, surveillance to detect hazards, safety design principles, safe operational concepts, and positive guidance applications in work zones. The driver's viewpoint is emphasized.
Target audience: Inspectors and maintenance foremen at State and local levels

Pavement Marking Inspection: Thermoplastic

Product: Videocassette, 20 minutes
Date produced: 1989
Source: American Traffic Safety Services Association
Contact: Mike Shalley, Member Services Director, American Traffic Safety Services Association, 5440 Jefferson Davis Highway, Fredericksburg, VA 22407 (703) 898-5400
Cost/terms: ATSSA members and public officials $24.95, others $49.95
Description: This videocassette covers the factors that will help insure highway quality, long-lasting thermoplastic applications. The videocassette stresses complete and accurate documentation of the work performed. Included with videocassette are 25 copies of *Pavement Marking Inspection Guide.*
Target audience: Public agency highway inspectors

Pavement Marking Inspection: Traffic Paint

Product: Videocassette (VHS) 14 minutes
Source: American Traffic Safety Services Association
Contact: Mike Shalley, ATSSA, 5440 Jefferson Davis Highway, Fredericksburg, VA 22407 (703) 898-5400
Cost/terms: ATSSA members and public agencies $24.95, others $49.95
Description: This videocassette describes the inspection procedures necessary to insure proper application of traffic paints. Included with the videocassette are 25 copies of Pavement Marking Inspection Guide.
Target audience: Public agency highway inspectors

Pavement Marking Inspection: Two-Part Epoxy

Product: Videocassette, 20 minutes
Date produced: 1990
Source: American Traffic Safety Services Association
Contact: Mike Shalley, Member Services Director, American Traffic Safety Services Association, 5440 Jefferson Davis Highway, Fredericksburg, VA 22407 (703) 848-5400
Cost/terms: ATTSA members and public officials $24.95, others $49.95
Description: This video describes the inspection practices necessary to insure proper application of two-part epoxy pavement markings. Included with videocassette are 25 copies of *Pavement Marking Inspection Guide.*
Target audience: Public agency highway inspectors

Planning and Implementing Work Zone Traffic Control

Product: Course (24 hours)
Date produced: 1991
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, Texas A&M University System, Texas Engineering Extension Service, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: This course covers the systematic application of methods to analyze the effect of alternative traffic control strategies on capacity and level of service. It includes a workshop in designing and implementing work zone traffic control.
Target audience: Technicians and professionals with traffic control experience

STAMMP: Pennsylvania Department of Transportation's Eyes on the Road

Product: Videocassette, 14 minutes
Date produced: 1988
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This safety-oriented program presents typical highway survey activities of a STAMMP team. The emphasis is on safety and accident prevention. The videotape includes comments by the Deputy Secretary for Highways and the Secretary of the Department of Transportation. (AV# 00676)
Target audience: General interest

Safe Handling of Traffic in Construction and Maintenance Areas

Product: Course (16 hours)
Date produced: 1990
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, Texas A&M University System, Texas Engineering Extension Service, College Station, TX 77843 (409) 845-4457
Cost/terms: Cost available on request
Description: This course covers traffic control at construction sites, the location of traffic control devices, visibility, legal responsibilities, and other work area traffic control.
Target audience: Project level personnel

Safety Through Maintenance and Construction Zones

Product: Course (16 hours)
Source: California Technology Transfer Center
Contact: David Hardy, Continuing Education Specialist, Institute of Transportation Studies Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax (510) 231-9589
Cost/terms: Available upon request
Description: This training course combines lecture, discussion, audio-visual presentations and a hands-on problem solving workshop to present factors to consider in planning work site traffic control. Topics include:

- need for traffic control;
- human factors;
- traffic control devices used in work areas;
- device location and placement;
- designing the traffic control zones;
- installing and removing devices;
- flagging;
- legal consequences; and
- evaluation and maintenance of traffic control work zones.

Target audience: Anyone responsible for handling traffic through construction and maintenance work sites or designing traffic control plans

Shadow of Safety: Truck Mounted Attenuator

Product: Videocassette, 9 minutes
Date produced: 1989
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 905 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette outlines methods for the operation of the truck-mounted attenuator equipment shadow vehicle. (AV# 00950)
Target audience: Supervisors and work crews

Signing for Local Roads

Product: Fact sheet
Source: Transportation Information Center, University of Wisconsin-Madison
Contact: Don Walker or Bob Fey, Transportation Information Center, University of Wisconsin-Madison, 432 North Lake Street, Madison, WI 53706 (800) 442-4615
Cost/terms: Free loan, may duplicate
Description: This fact sheet is a revision of the original #7 and also replaces #8. It discusses

the various aspects of signing standards, applications, regulations, and responsibilities.
Target audience: Personnel responsible for maintaining an operating traffic control systems

Snow and Ice Control on Local Roads

Product: Manual, self-study text
Date produced: 1990
Source: Maine Local Roads Center
Contact: Pete Coughlan, Director, Maine Local Roads Center, Technical Services Division, Maine Department of Transportation, State House Station 16, Augusta, ME 04333 (207) 287-2151
Cost/terms: Free to all T^{2}Centers, $25 all others
Description: This manual was used for a workshop for snow plow operators, public works officials, and town officials. The manual covers performing tasks (pre-storm to during storm to post-season), establishing a winter maintenance policy, calibrating spreaders, using public relations, and using salt and calcium chloride.
Target audience: Municipal and county public works officials, foremen, and operators

A Striper's Survival Guide

Product: Videocassette (VHS) 12 minutes
Source: American Traffic Safety Services Association
Contact: Mike Shalley, ATSSA, 5440 Jefferson Davis Highway, Fredericksburg, VA 22407 (703) 898-5400
Cost/terms: ATSSA members and public agencies $24.95, others $49.95
Description: This videocassette provides safety training for pavement striping crews. It addresses material and equipment safety, personal safety, and traffic control.
Target audience: Public and private pavement striping personnel

Thin Orange Line

Product: Videocassette (VHS), 32 minutes
Source: American Traffic Safety Services Association
Contact: Mike Shalley, American Traffic Safety Services Association, 5440 Jefferson Davis Highway, Fredericksburg, VA 22407 (703) 898-5400
Cost/terms: ATSSA members and public officials $24.95, others $49.95
Description: Part one of this videocassette (12 minutes) introduces the viewer to the basic design principles and techniques of design of a work zone traffic control plan. Part two (20 minutes) emphasizes the selection, placement and maintenance of traffic control devices.
Target audience: Inspectors, supervisors

Traffic Accident Data Analysis: Identification of High Accident Locations

Product: Slide-tape (1 hour)
Date produced: 1985
Source: Department of Civil Engineering, West Virginia University
Contact: Ronald W. Eck, Professor, Civil Engineering, West Virginia University, P.O. Box 6101, Morgantown, WV 26506-6101 (304) 293-5580, ext. 627
Cost/terms: Course and instructional materials available from contact
Description: This presentation covers accident records systems, procedures for identifying high-hazard locations, and procedures for identifying patterns of accident occurrence.
Target audience: Engineers, administrators and enforcement personnel

Traffic Control for Street and Highway Construction Operations

Product: Slide-tape (1 hour)
Date produced: 1985
Source: Department of Civil Engineering, West Virginia University
Contact: Ronald W. Eck, Professor, Civil Engineering, West Virginia University, P.O. Box 6101, Morgantown, WV 26506-6101 (304) 293-5580, ext. 627
Cost/terms: Course and materials available, phone contact for costs
Description: This one-hour program covers traffic control practices that create hazardous conditions, alternative practices, procedures for selecting devices, and use of standard

layouts when appropriate.
Target audience: Street, highway construction and maintenance personnel

Traffic Control Through Maintenance Work Zones

Product: Course materials
Date produced: 1992
Source: Louisiana Transportation Research Center
Contact: Joe T. Baker, Director of Technology Transfer, Louisiana Transportation Research Center, 4101 Gourrier Avenue, Baton Rouge, LA 70808 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate; private $25 handling fee for loan/can't duplicate
Description: This audiovisual course uses 139 slides, a workbook, and a handbook to cover proper signing and routing of traffic through maintenance work areas.
Target audience: Maintenance supervisors and road crews

Traffic Signal Coordination

Product: Course (16 hours)
Source: California Technology Transfer Center
Contact: Susan Ker, Manager of Engineering Training, Institute of Transportation Studies, Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax (510) 231-9589
Cost/terms: Available upon request
Description: This course includes the more advanced topics associated with the coordination of a traffic signal system, including signal coordination concepts and methods. Signal coordination hardware is briefly reviewed. Students are trained on the PASSER program for arterial signal coordination and the TRANSYT signal network optimization program. Students learn data collection, calibration and optimization using each software program. The process for fine-tuning and field implementing the optimal timing is discussed along with techniques for dealing with controller hardware limitations in special situations.
Target audience: Traffic and transportation engineers

Traffic Signal Design

Product: Course (24 hours)
Date produced: 1991
Source: Transportation Training Division, Texas Engineering Extension service
Contact: Nelson Evans, Head, Transportation Training Division, TEEX, Texas A&M University System, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: This course covers traffic signal warrant procedures, tort liability related to signal design and operation, types of signal control systems, controller capacities and selection, signal phasing and timing, traffic detectors and design of signal systems.
Target audience: Personnel involved in traffic signal design or operations

Traffic Signal Equipment and Operations

Product: Course (16 hours)
Source: California Technology Transfer Center
Contact: Susan Ker, Manager of Engineering Training, Institute of Transportation Studies Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax: (510) 231-9589
Cost/terms: Available upon request
Description: This course covers the major aspects of traffic signal equipment and its operation. Topics include:

- the "why" of traffic signals;
- warrants;
- the history of signals;
- signal basics;
- definitions;
- terminology;
- elements of timing;
- standards - NEMA and ITS;
- pre-timed controller units;
- selections of controller units;
- capacity at signals;
- detector;
- detector application;
- signal systems;
- system operations;
- signal heads and mounting;

- pre-emption of signals; and
- signal operations and maintenance.

Target audience: Transportation and traffic engineers

Traffic Signal Retiming for Intersections and/or Arterial Streets

Product: Course
Date produced: 1991
Source: Transportation Research Center, University of Florida
Contact: Charles E. Wallace, Director, Transportation Research Center, University of Florida, 512 Weil Hall, Gainesville, FL 32611 (904) 392-0378
Cost/terms: Ask contact
Description: This is a flexible (three- to eight-day) comprehensive course on traffic signal timing optimization. It includes timing of both isolated signals and arteries. Depending on the length, it may include basic material (comprehensive course) or just the computer model applications (three- to four-day). It covers the WHICH and AAP model integrators and all their component programs (HCS, SOAP, SIGNAL85, SIDRA, TRAF-NETSIM) and unsignalized for isolated signals. It also covers PASSER II and TRANSYT-7F for arteries. Material from the network TRANSYT-7F course can optionally be included.
Target audience: Traffic engineers and transportation planners.

Traffic Signal Systems - Advanced Topics

Product: Course (8 hours)
Source: California Technology Transfer Center
Contact: Susan Ker, Manager of Engineering Training, Institute of Transportation Studies Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax (510) 231-9589
Cost/terms: Available upon request
Description: This course provides information on state-of-the-art in multi-system signal coordination strategies, software and hardware. Topics include:

- advanced techniques for isolated signals phasing and timing;
- advanced techniques for coordinated signals; and
- intelligent vehicle system initiatives.

Target audience: Signal engineers

Traffic Signal Timing and Control Fundaments - Isolated Intersections

Product: Course (16 hours)
Source: California Technology Transfer Center
Contact: Susan Ker, Manager Engineering Training, Institute of Transportation Studies Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax (510) 231-9589
Cost/terms: Available upon request
Description: This course covers manual methods for timing fixed-time and actuated signals as well as computer software tools to assist in selecting timings. Students use classroom micro-computers and application software packages to develop their own timing plans.
Target audience: Traffic and transportation engineers

Training Course on Traffic Accident Reconstruction

Product: Course (up to 2 days)
Date produced: 1993
Source: Department of Civil Engineering, West Virginia University
Contact: Ronald W. Eck, Professor of Civil Engineering, West Virginia University, P.O. Box 6101, Morgantown, WV 25606-6101 (304) 293-3031 ext. 627
Cost/terms: Expenses and $20 per participant for copy of "Handbook on Accident Reconstruction"
Description: The length of this course can be as short as one-half day to as long as two days, depending on areas covered. The complete course covers:

- description of accident reconstruction process;
- accident investigation, including preparation, inspecting the scene, inspecting the vehicle, and gathering evidence;
- techniques for accident reconstruction,

including physics of vehicle motion, human factors, and vehicle speed estimates;

- special topics (truck, motorcycle, and pedestrian accidents); and
- presentation of conclusions.

Participants receive copy of "Handbook on Accident Reconstruction."
Target audience: Traffic engineers, law enforcement personnel, claims investigators and attorneys

TRANSYT-7F Training Course

Product: Course
Date produced: 1992
Source: Transportation Research Center, University of Florida
Contact: Charles E. Wallace, Director, Transportation Research Center, University of Florida, 512 Weil Hall, Gainesville, FL 32611 (904) 392-0378
Cost/terms: Ask contact
Description: This comprehensive three-day (adjustable) training course in the use of the TRANSYT-7F, release 7, model covers details of the TRANSYT simulation and optimization algorithms and operation of the package, data coding, and interpretation of results. The course also covers signal timing, elements, and implement guidelines.
Target audience: Traffic engineers and transportation planners

Truck Escape Ramps: Pennsylvania's Safe Choice

Product: Videocassette (VHS), 5 minutes
Date produced: 1987
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This FHWA/Pennsylvania Department of Transportation videocassette shows the benefits of using truck escape ramps in an emergency. Demonstrations of the ramps' effectiveness are shown. (AV# 00558)
Target audience: Public officials, engineers

Work Zone Control: Flagging

Product: Videocassette, 15 minutes
Date produced: 1982
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette covers flagging in work zone traffic control. (AV# 00082)
Target audience: Flaggers

Work Zone Traffic Control for Local Streets

Product: Course (8 hours)
Date produced: 1990
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, TEEX, Texas A&M University System, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: This hands-on course covers policies for selecting, setting up and maintaining traffic control for low-volume, low-speed roads.
Target audience: City maintenance and utility workers involved in maintenance and repair activities

Work Zone Traffic Control: Sampler

Product: Videocassette, 10 minutes
Date produced: 1987
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS

Description: Excerpts from various video training programs are used to show how Pennsylvania Department of Transportation addresses different aspects of work zone control. (AV# 00488)
Target audience: Maintenance crews

Work Zone Traffic Control 86: Evaluation and Inspection of Long Term Operations

Product: Videocassette, 43 minutes
Date produced: 1986
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette covers the evaluation and inspection of long-term work-zone traffic control operations. (AV# 00274)
Target audience: Supervisors and work crews

Work Zone Traffic Control Setup and Removal

Product: Videocassette
Date produced: 1986
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette covers work zone traffic control set up and removal for short term operations. (AV# 00477)
Target audience: Supervisors and work crews

Work Zone Traffic Control Workshop

Product: Course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course is designed to

- give participants a knowledge of the process of installing, maintaining, and monitoring traffic control for work zones;
- develop a basic understanding of national standards for work zone traffic control;
- identify and apply workable concepts and techniques for installing and maintaining controls in construction, maintenance, and utility operations; and
- assess the legal consequences of action and inaction relative to work zone traffic control and identify risk management procedures.

Target audience: State, county and municipal engineers, supervisors, foremen, safety officers, contractors and utilities

World of Traffic Safety

Product: Videocassette, 20 minutes
Date produced: 1987
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, Pennsylvania 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: The videocassette demonstrates the Commonwealth's role in safety programs such as seat belts, driving under the influence, motor carrier safety assistance program, motorcycle awareness, and others. (AV# 00679)
Target audience: General interest

Roads

Administration and Management of Local Streets and Roads

Product: Reference manual
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost: $15 for Indiana governments, $25 for others
Description: A reference manual for local government officials on the administration and management of streets and roads under their jurisdiction.
Target audience: Indiana county, city and town officials

Advanced Asphaltic Concrete Plant Inspection

Product: Self-study text
Date produced: 1979
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245, (504) 767-9116
Cost/terms: Public agencies one free copy; private $10/can't duplicate
Description: This programmed self-instructional text covers inspection and mix design procedures used at asphaltic concrete plants. (L0501A)
Target audience: Asphalt plant technicians

Asphalt Cold Mix Manual

Product: Manual (187 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY, 40512-4052 (606) 288-4960
Cost/terms: $16
Description: This manual contains guidelines for central plant mix and mixed-in-place construction of mixes utilizing asphalt emulsion or cutback asphalt. It also includes specifications for stockpile maintenance mixtures and cold mix design using the Marshall or modified Hveem mix design methods. (MS-14)
Target audience: Pavement engineers

Asphalt Cold-Mix Recycling

Product: Manual (76 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box

14052, Lexington, KY, 40512-4052 (606) 288-4960
Cost/terms: $8
Description: This manual covers methods of recycling asphalt pavements using either emulsified asphalt or hot asphalt cement. It describes the process of removing old pavement, storing and processing reclaimed material, and designing and constructing recycled pavements using both in-place and central plant mixing. (MS-21)
Target audience: Engineers

Asphalt Handbook

Product: Manual (640 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $33.00 post-free
Description: The *Asphalt Handbook* describes the uses of asphalt, including information on types of asphalt, mix designs, mixing facilities, paving, compaction, surface treatments, recycling, maintenance, structural design, various miscellaneous uses, and useful tables.
Target audience: General

Asphalt Handbook for County and Municipal Engineers

Product: Manual
Date produced: 1991
Source: New Jersey Society of Municipal Engineers
Contact: Carolyn Golojuch, Editor/Librarian, Rutgers Road Technology Transfer Center, Building 4161, Livingston Campus, New Brunswick, NJ 08903 (908) 932-5074
Cost/terms: $10, may duplicate
Description: The purpose of this publication is to assist county and municipal engineers in the design, construction, maintenance and management of asphalt pavements throughout the state of New Jersey and elsewhere.
Target audience: County and municipal engineers, public works officials

Asphalt Hot-Mix Recycling

Product: Manual (52 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $8
Description: This manual contains comprehensive data on hot-mix recycling of asphalt pavements, including materials evaluation, recycling agents, design, plant production, construction, and aggregate temperature determination. (MS-20)
Target audience: Engineers

Asphalt in Pavement Maintenance

Product: Manual (144 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $12
Description: This manual provides practical information on methods, equipment and terminology used in the application of asphalt in the maintenance of all types of pavements. It gives specific data on the repair of joints, cracks, distortion, disintegration, skid hazards, surface treatments, shoulders, and care of equipment. (MS-16)
Target audience: Engineers, contractors

Asphalt Laydown Inspection

Product: Course
Source: Montana LTAP
Contact: John L. Hopkins, Director, Montana LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717 (800) 541-6671
Cost/terms: $400/day plus travel
Description: This course covering asphalt laydown inspection is intended for field workers.
Target audience: Operational personnel and supervisors

Asphalt Overlays for Highway and Street Rehabilitation

Product: Manual (164 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $12
Description: This manual is a guide to the design and construction of asphalt overlays and the evaluation of pavements prior to overlaying. It is applicable to overlays of asphalt and concrete pavements, including nondestructive testing for pavement evaluation. (MS-17)
Target audience: Engineers, designers

Asphalt Pavement Maintenance

Product: Course (8 hours)
Source: California Technology Transfer Center
Contact: David Hardy, Continuing Education Specialist, Institute of Transportation Studies Extension Program, 1301 South 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax (510) 231-9589
Cost/terms: Available upon request
Description: This course is a practical overview of common maintenance methods with an emphasis on prevention of problems. Topics include:

- types, materials and procedures for filling and surface sealing;
- comparison of preventive and corrective measures;
- use of asphalt in concrete pavement maintenance;
- rehabilitation options and life cycle analysis;
- design of asphalt overlays;
- recycling procedures; and
- specialty maintenance products.

Target audience: Maintenance engineers, managers, supervisors responsible for any phase of asphalt pavement maintenance

Asphalt Pavement Maintenance Workshop

Product: Course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course covers a variety of topics dealing with current practices in asphalt pavement maintenance operations, including pavement evaluation, asphalt mix materials, hot plant mix production and pavement construction methods, and routine pavement maintenance techniques.
Target audience: Street and highway maintenance foremen, pavement maintenance supervisors and street superintendents

Asphalt Pavement Management Systems Workshop

Product: Course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course covers the basic elements for establishing a pavement management system.
Target audience: Engineers, city managers, public works directors, elected officials

Asphalt Pavement Recycling Workshop

Product: Course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course covers the state-of-the-art procedures for hot and cold recycling.
Target audience: Engineers, technicians, inspectors, street superintendents

Asphalt Pavement Technology and Inspection Workshop

Product: Course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course covers asphalt materials, inspection techniques, and basic principles and state-of-the-art testing procedures.
Target audience: Engineers, technicians, inspectors

Asphalt Paving Manual

Product: Manual (148 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $12
Description: This publication describes the placement and compaction of asphalt plant mix. It includes information on the responsibilities of engineers and contractors; the preparation of the foundation for asphalt pavements; inspection and adjustment of equipment; spreading, compacting, and creating shoulders; and supplemental work and duties of the inspector. (MS-8)
Target audience: Engineers and contractors

Asphalt Plant Ticket Writer's Handbook

Product: Manual
Date produced: 1980
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy; private-$6/can't duplicate
Description: This course describes the duties and responsibilities of the asphalt plant ticket writer and assistant plant inspector. Although this ticket is that of the Louisiana Department of Transportation and Development, it may provide an idea for other agencies' procedures. (L0502A)
Target audience: Asphalt plant personnel

Asphalt Pocketbook of Useful Information

Product: Manual (144 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $9
Description: This is a pocket-size publication containing data on unloading tank cars, temperature-volume corrections for asphalt materials, and conversion tables for material requirements in road construction. (MS-6)
Target audience: Pavement engineers, contractors

Asphaltic Concrete Paving Inspection: 2 Volumes

Product: Self-study text
Date produced: 1989
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, 4101 Gourrier Avenue, Baton Rouge, LA 70808 (504) 767-9116
Cost/terms: Public agencies one free copy/can't duplicate, private $15 each volume/can't duplicate
Description: This programmed, self-instructional text covers all areas of asphaltic concrete paving inspection. Volume I includes an introduction to asphaltic concrete and its uses; the purpose of paving equipment and guidelines for inspection; and pre-construction inspection requirements. Volume II covers placement operations; calculations for theoretical and actual yield; and routine sampling and testing requirements. (C0501B and C0502B)
Target audience: Construction personnel

Asphaltic Surface Maintenance

Product: Slide-tape
Date produced: 1991
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate, private $25 handling fee for loan/can't duplicate
Description: This set of 196 slides (60 minutes) covers the procedures used in the repair of asphaltic surfaced roads. (M1001B)
Target audience: Highway superintendents and supervisors

Base Course Inspection

Product: Self-study text
Date produced: 1977
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy; private $10/can't duplicate
Description: This programmed self-instructional text covers inspection procedures used in the field for base course inspection. Prerequisites include highway plan reading, traffic control and excavation and embankment inspection. (C0302A)
Target audience: Highway inspectors

Basic Asphalt Emulsion Manual 2nd Edition

Product: Manual (248 pages), 8 1/2 x 11-inch paperback
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $18 a copy, post-free
Description: The manual explains the general characteristics of asphalt emulsions and their uses. It helps readers evaluate pavement systems for construction and maintenance. Chapters include information on chemistry, manufacturing, storing, handling, sampling, testing and selecting the correct emulsion, and hot and cold mixes. It also contains information on recycling. (MS-19)
Target audience: Personnel involved in pavement construction

Basic Asphaltic Concrete Plant Inspection

Product: Self-study text
Date produced: 1991
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy; private $15/can't duplicate
Description: This programmed self-instructional text covers inspection procedures used at asphaltic concrete plants. It is a beginning level course designed to give basic information on plant types and their daily operations. The text highlights inspection points for plants and mix. (L0500A)
Target audience: Asphalt plant technicians

The Basics of a Good Road

Product: Course materials, manual
Date produced: Revised 1993
Source: Cornell Local Roads Program
Contact: Toni Rosenbaum, Program Manager, Cornell Local Roads Program Technology Transfer Center, 416 Riley-Robb Hall, Ithaca, NY 14853-5701 (607) 255-8033
Cost/terms: Free to highway and public works officials, $5 to others
Description: This course is intended for newly elected or appointed town, county, city, and village highway officials, street foremen, construction supervisors and others who are interested in learning about the fundamental concepts of road building. Topics include drainage, design features, soils and materials,

patching, and paving. Cornell Local Roads Program Report No. 93-3)
Target audience: Non-technical public works employees

Blading Unpaved Roads

Product: Videocassette (VHS)
Date produced: 1985
Source: Nebraska Department of Roads
Contact: Blane Osterman, Training Officer, Nebraska Department of Roads, Statehouse, P.O. Box 94759, Lincoln, NE 68509 (402) 479-4574
Cost/terms: Free loan, may duplicate
Description: This videotape is designed to teach operator trainees to understand the basic concepts of the construction and maintenance of unpaved roads; perform the required daily maintenance on a motor grader; and operate the grader to maintain unpaved roads.
Target audience: New operators

Bonded Concrete Overlays

Product: Slides (80) with script (Code Number SS507P)
Date produced: 1991
Source: American Concrete Pavement Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $136
Description: These slides offer a comprehensive presentation which describes design features, including pre-overlay repair, surface preparation, developing bond and joint design. A companion publication, "TB007P Guidelines for Bonded Concrete Overlays," is available as a study reference.
Target audience: Engineers

Building or Replacing Intersections with Concrete

Product: Videocassette (VHS) 8 minutes
Date produced: 1993
Source: American Concrete Pavement Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $18.95
Description: This videocassette includes construction sequencing suggestions (including fast track) for rapid pavement placement, minimizing traffic disruption.
Target audience: Design, planning and maintenance engineers

Calculating Pavement Costs

Product: Manual (32 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $5 post-free
Description: *Calculating Pavement Costs* offers engineering and architectural estimators and all those preparing or evaluating project cost proposals a procedure for making rapid calculations to determine pavement costs per square yard. (IS-174)
Target audience: Engineers and others estimating project costs

Chip Seal Operations

Product: Course
Source: Montana LTAP
Contact: John L. Hopkins, Director, Montana LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717 (800) 541-6671
Cost/terms: $400/day plus travel
Description: This course on chip seal operations is intended for supervisors and field crews.
Target audience: Operations personnel and supervisors

Chip Seals and Surface Treatments

Product: Manual (72 pages)
Date produced: 1991
Source: Cornell Local Roads Program
Contact: Toni Rosenbaum, Program Manager, Cornell Local Roads Program, 416 Riley Robb

Hall, Ithaca, NY 14853-5701 (607) 255-8033
Cost/terms: Free to highway and public works officials, $5 to others
Description: This manual is intended for highway officials and public works personnel in local highway departments who are responsible for surface treatment operations. Topics include chip seal materials and construction techniques, multiple chip seals, slurry seal treatments, choosing surface treatments for pavements, and training crews for chip sealing. (CLRP Report #91-5)
Target audience: Highway officials and public works personnel

City Street Design

Product: Course (24 hours)
Date produced: 1990
Source: Transportation Training Division, Texas Engineering Extension Service
Contact: Nelson Evans, Head, Transportation Training Division, TEEX, Texas A&M University System, College Station, TX 77843-8000 (409) 845-4457
Cost/terms: Cost available on request
Description: This course covers the planning of urban street systems, review of intersection design principles, medians, drainage design and functional design guidelines.
Target audience: Recent engineering graduates with minimal experience and experienced technicians or engineers with minimal experience in highway and/or safety design

Cold Feed Adjustments: Asphaltic Concrete Plants

Product: Manual
Date produced: 1981
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy; private $6/can't duplicate
Description: This manual gives a step-by-step description of the calibration of cold feed settings by volume and dry weight.
Target audience: Asphalt plant technicians

Cold In-Place Recycling

Product: Videocassette, 5 minutes
Source: Asphalt Recycling and Reclaiming Association
Contact: Michael Krissoff, Executive Director, Asphalt Recycling and Reclaiming Association, #3 Church Circle, Suite 250, Annapolis, MD 21401 (410) 267-0023
Cost/terms: $25
Description: This videocassette provides an overview of cold in-place recycling, the benefits and applications.
Target audience: Public officials

Cold Mix Recycling

Product: Videocassette, 17 minutes
Date produced: 1987
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape on recycling low volume roads with cement fly ash shows research projects conducted in Susquehanna and Bradford counties to develop the use of cement and fly ash to stabilize existing roadways. Research project 84-14 results show a low cost, structurally sound pavement using existing roadway materials with the addition of fly ash and Portland cement. (AV# 00644)
Target audience: Engineers, superintendents

Cold Planing Revolution

Product: Videocassette (VHS), 6 minutes
Source: Asphalt Recycling and Reclaiming Association
Contact: Krissoff, Michael, Executive Director, ARRA, #3 Church Circle, Suite 250, Annapolis, MD 21401 (410) 267-0023
Cost/terms: $25
Description: This videocassette provides an

overview of cold planing, the benefits and applications.
Target audience: Public officials

Cold Weather Compaction

Product: Manual (16 pages)
Source: National Asphalt Pavement Association
Contact: NAPA, NAPA Building, 5100 Forbes Blvd., Lanham, MD 20706-4413 (301) 731-4748, Fax (301) 731-4621
Cost/terms: $9, governmental agencies and educational institutions eligible for 25 percent discount
Description: This manual addresses the variable affecting cold weather paving and compaction and guidelines for the paving contractor and highway agency to consider for achieving a successful project. (QIP-118)
Target audience: Paving contractors and highway agencies

Concrete Pavement Rehabilitation Package

Product: Manual (Code No. TB100P, Special Publication)
Date produced: 1993
Source: American Concrete Pavement Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $90, discounts may apply
Description: This package includes all of ACPA's technical bulletins dealing with pavement rehabilitation as well as eight other publications covering all facets of concrete pavements (planning, design, construction and maintenance).
Target audience: Planning, design, construction, maintenance personnel

Concrete Solution to Municipal Problems

Product: Course materials
Date produced: 1991
Source: North Carolina T^2 Program
Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course covers: raw materials, concrete production, significance of the water/cement ratio, "do's and don'ts" of concrete construction (site, preparation, finishing, and curing), and jointing.
Target audience: Public works personnel responsible for the construction, inspection, or maintenance of concrete facilities

Concrete Surface Maintenance

Product: Slides, workbook, handbook
Date produced: 1979
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-weeks loan/may duplicate; private $25 handling fee for loan/can't duplicate
Description: This audiovisual course uses 226 slides, a workbook, and a handbook to cover the techniques used in the repair of Portland cement concrete pavement. (M1002A)
Target audience: Highway maintenance crews

Construction Leveling

Product: Self-study text
Date produced: 1988
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, 4101 Gourrier Avenue, Baton Rouge, LA 70808 (504) 767-9116
Cost/terms: Public agencies one free copy/can't duplicate; private $15/can't duplicate
Description: This programmed, self-instructional text teaches the basic principles of leveling; the use and care of instruments used in leveling for Louisiana Department of Transportation and Development construction operations; and the

documentation of leveling operations including checking notes.
Target audience: Construction engineering technicians

Crack Sealing

Product: Videocassette, 8 minutes, slides
Date produced: 1987
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This audiovisual presentation provides a visual review of department policies on crack sealing of bituminous pavements. It covers equipment, materials, and application requirements. (AV# 00519)
Target audience: Maintenance crews, supervisors

Crack Sealing

Product: Videocassette (VHS), 11 minutes
Date produced: 1990
Source: Oregon T² Center, Oregon Department of Transportation
Contact: Wes Heidenreich, Coordinator, Oregon T² Center, Oregon Department of Transportation, 2950 State Street, Salem, OR 97310 (503) 378-3421
Cost/terms: Free loan, may duplicate
Description: This videocassette provides information on crack sealing materials and techniques. Emphasis is placed on the use of double-boiler agitated kettle equipment. Very little information is specific to the Oregon climate.
Target audience: Supervisors and work crews

Design and Construction of Joints in Concrete Streets

Product: Manual
Date produced: 1992
Source: Portland Concrete Association/American Concrete Pavement Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 Wilke Road, Suite 490, Arlington, Heights, IL 60004 (708) 966-6288
Cost/terms: $5, discounts available
Description: This manual discusses the design and construction of jointing systems in concrete streets to ensure the structural capacity, ride quality and good pavement performance. It contains information on transverse, longitudinal and isolation joints design and construction; load transfer; sealants; spacing and keyway design; and layout.
Target audience: City engineers and consultants

Design and Control of Concrete Mixtures

Product: Manual (212 pages)
Source: Portland Cement Association
Contact: Wayne S. Adaska, Director Public Works, Portland Cement Association, 5420 Old Orchard Road, Skokie, IL 60077-1083 (708) 966-6200
Cost/terms: $31.50 (discounts available)
Description: This manual discusses the fundamentals of concrete; materials for concrete-Portland cements; mixing water, aggregates, admixtures and air entrapment; mix proportioning; batching, mixing, transporting, handling, placing, consolidation, finishing and curing; precautions during hot and cold; controlling volume changes; quality control tests; special types of concrete; and more.
Target audience: Design and construction engineers and general interest

Design, Construction and Maintenance of Urban Streets

Product: Course
Date produced: 1992
Source: A. B. Webb, Consultant
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Indiana T2 Center, Purdue University, 1284 Civil Engineering Building, Lafayette, IN 47907-1284 (317) 494-5017
Cost/terms: May duplicate
Description: This course covers the following:

- urban street design;
- materials selection, mix design and quality control of hot mix asphalt for streets;
- rehabilitation techniques, overlays and other rehabilitation procedures for all types of existing urban pavements;
- patching and crack sealing; and
- special mixes and their application on urban streets.

Target audience: Design, construction and maintenance professionals

Diamond Grinding of Concrete Pavements

Product: Slides (31) with script (Code Number SS508P)
Date produced: 1991
Source: American Concrete Pavement Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $42
Description: These slides cover state-of-the-art use of diamond grinding technology for restoring a smooth, skid-resistant surface to an existing concrete pavement. A companion publication, "TB008P Diamond Grinding and CPR2000," is available as a study reference.
Target audience: Engineers

Excavation and Embankment Inspection

Product: Self-study course
Date produced: 1981
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy/may duplicate; private/$12/can't duplicate
Description: This is a programmed self-study course covering the procedures used in the field for excavation and embankment inspection. It includes basic soils analysis and field recognition of soils types. Students should be familiar with highway plan reading and traffic control through construction sites. (C0301A)
Target audience: Highway construction inspectors

Full-Depth Repair of Concrete Pavements

Product: Slides (82) and script (Code Number SS502P)
Date produced: 1991
Source: American Concrete Pavement Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $111
Description: These slides present complete design and construction guidelines for the repair of joints and slabs using full-depth replacement. Also, a companion publication, "TB002 Guidelines for Full-Depth Repair" is available as a study reference.
Target audience: Pavement design engineers

Fundamentals of Quality Concrete

Product: Videocassette (3/4-inch, VHS)
Source: Portland Cement Association
Contact: Wayne S. Adaska, Director Public Works, Portland Cement Association, 5420 Old Orchard Road, Skokie, IL 60077-1083 (708) 966-6200
Cost/terms: $99
Description: This videocassette describes the basic concepts of Portland cement concrete technology, Topics include the material properties of cement, water, fine and course aggregates and admixtures; concrete properties versus water-to-cement ratios; durability and air entrapment; the proper curing of concrete; and the five essentials of quality concrete.
Target audience: Those working with concrete

Geosynthetics Workshop for Municipal and State Engineers

Product: Course materials
Date produced: 1991
Source: North Carolina T^2 Program

Contact: James B. Martin, Associate Director for Programs, The University of North Carolina-Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080
Cost/terms: Free loan, may duplicate
Description: This course presents the very basic information concerning geosynthetic materials and general information on the various applications of these materials. Participants will leave with sufficient training to allow them to make knowledgeable decisions concerning the use of geosynthetic materials.
Target audience: Municipal and state engineers

Geotextiles

Product: Course
Source: Montana LTAP
Contact: John L. Hopkins, Director, Montana LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717 (800) 541-6671
Cost/terms: $400/day plus travel
Description: This course on Geotextiles is intended for supervisors and field crews.
Target audience: Operational personnel and supervisors

Geotextiles in Road Construction, Maintenance and Erosion Control

Product: Fact sheet (8 pages)
Date produced: 1989
Source: Wisconsin Transportation Information Center
Contact: Robert Fey, Program Director, Wisconsin Transportation Information Center, University of Wisconsin-Madison, 432 North Lake Street, Madison, WI 53706 (608) 262-8592
Cost/terms: Free, may duplicate
Description: This fact sheet describes the types and common uses of geotextiles. It includes details on the use and installation of geotextiles in road stabilization and erosion control applications.
Target audience: Local road staff and elected officials

Gravel Road Maintenance

Product: Course
Date produced: 1990, updated 1993
Source: South Dakota Transportation Technology Transfer Service
Contact: Ken Skorseth, Field Operations Manager, Transportation Technology Transfer Service, South Dakota State University, Box 2220, Harding Hall, Brookings, SD 57007-2220 (605) 688-5601
Cost/terms: Available to T^2 Centers on contract basis, call for information
Description: This course is designed to teach highway superintendents, motor grader operators, and foremen the state-of-the-art in maintaining gravel roads within their jurisdictions. Emphasis is placed on proper blading techniques, regraveling, proper equipment, training, and scheduling. The teaching method utilizes videocassettes, slides and lectures. The instructor has 21 years experience in the construction and road maintenance industry.
Target audience: All levels of local government officials

Gravel Road Maintenance

Product: Course
Source: Montana LTAP
Contact: John L. Hopkins, Director, Montana LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717 (800) 541-6671
Cost/terms: $400/day plus travel
Description: This course on gravel road maintenance is geared for supervisors and motor grader operators.
Target audience: Operational personnel and supervisors

Guide to Common Road and Equipment Maintenance Procedures

Product: Manual
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, 4101 Gourrier Avenue, Baton Rouge, LA 70808 (504) 767-9116

Cost/terms: Public agencies 1 free copy/may duplicate, private $10/can't duplicate
Description: This manual covers the following topics: pothole repair; crack repair; repair of depressions, rutting and corrugations; base and subbase repair; single and multiple surface treatments; patching unpaved roads; smoothing and reshaping of earth and gravel roads; regraveling; reshaping shoulders; cleaning of ditches, culverts and catch basins; cleaning and clearing of bridges; and daily maintenance of equipment. (M7035A)
Target audience: First line maintenance supervisors

Highway/Utility Guide

Product: Manual
Date produced: 1993
Contact: Paul Scott (HNG-12), Federal Highway Administration, Office of Engineering, 400 7th Street SW, Room 3132, Washington, DC 20590 (202) 366-4104
Cost/terms: Free copies upon request
Description: For many years there has been a need to assemble under one cover state-of-the-knowledge guidance on the better practices being employed to address the full array of issues which can arise from highway and utility facilities sharing common right-of-way. The *Highway/Utility Guide* provides useful information relevant to joint use issues, a historical perspective, and good current practices. Issues addressed include:

- planning and coordination;
- design;
- permits;
- information management and mapping;
- notification procedures;
- legal;
- safety;
- construction;
- maintenance; and
- reimbursement.

Target audience: Utility and highway professionals, educators and government managers

Hot Mix Asphalt Joint Construction

Product: Manual (10 pages)
Date produced: revised 1993
Source: National Asphalt Pavement Association
Contact: NAPA, NAPA Building, 5100 Forbes Blvd., Lanham, MD 20706-4413 (301) 731-4748, Fax: (301) 731-4621
Cost/terms: $6, discounts for public agencies and educational institutions, discount for quantity
Description: Good construction techniques for pavement joints enhance both the smoothness and the performance of an HMA pavement. What these techniques are and how they can be used to construct quality joints, both transverse and longitudinal, is addressed, including a review of techniques from the U.S. and other countries. Included are types of joints, advantages and disadvantages and construction techniques. (QIP-115)
Target audience: Inspectors

Hot-Mix Asphalt Materials, Mixture Design and Construction

Product: manual
Date produced: 1991
Source: National Asphalt Pavement Association
Contact: NAPA, NAPA Building, 5100 Forbes Blvd., Lanham, MD 20706-4413 (301) 731-4748, Fax: (301) 731-4621
Cost/terms: $45, discounts for public agencies and educational institutions, discount for quantity
Description: Published by the National Center for Asphalt Technology this can be used as a textbook for college/university classroom instruction or as a primer on Hot-Mix Asphalt (HMA). Topics covered include:

- asphalt refining,
- uses and properties,
- aggregates,
- HMA mix design methodology,
- characterization of asphalt mixtures,
- equipment and construction,
- special mixes,
- recycling and additives,
- performance/distress of HMA, and
- maintenance, rehabilitation and reconstruction of HMA. (TB-001)

Target audience: Design engineers

Hot-Mix Asphalt Paving Handbook

Product: Manual
Date produced: 1991
Source: National Asphalt Pavement Association
Contact: NAPA, NAPA Building, 5100 Forbes Blvd., Lanham, MD 20706-4413 (301) 731-4748, Fax: (301) 731-4621
Cost/terms: $25, discounts for public agencies and educational institutions, discount for quantity
Description: (PH-001) Under the sponsorship of the Transportation Research Board, NAPA, FHWA, AASHTO, Federal Aviation Administration and the U.S. Army Corps of Engineers developed a comprehensive handbook covering:

- Hot Mix Asphalt (HMA) project organization,
- mix design and job mix formulas,
- types of HMA manufacturing facilities,
- aggregate storage and handling,
- asphalt cement storage and distribution,
- batch and drum mix facility operations,
- surge and storage silos,
- emission controls,
- mix delivery,
- surface preparation,
- automatic screed controls,
- joint construction,
- compaction, and
- equipment and mat problems/solutions.

Target audience: Inspectors, highway engineers

Inspection of Public Works Construction

Product: Manual
Date produced: 1991
Source: Arizona State University Technology Transfer Program
Contact: Don DeGraftenreid, Manager, T^2 Program, Arizona State University, Engineering and Applied Sciences, Tempe, AZ 85287-6306 (602) 965-2744
Cost/terms: Free copy, may duplicate
Description: This manual covers the duties of the inspector; subgrade and base course construction inspection; quality control of concrete; asphalt pavement inspection; quality control of seal coats and surface treatments; and inspection and quality control of aggregates.
Target audience: Inspectors and supervisors

Introduction to Asphalt

Product: Manual (74 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $9
Description: This manual contains summary information on asphalt: its uses, a brief history, definitions, tests, and specifications. (MS-5)
Target audience: Engineers

Joint Sealing

Product: Videocassette, 13 minutes
Date produced: 1987

Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videotape provides a review of the Pennsylvania Department of Transportation policies on joint sealing. It includes information on equipment, materials and application requirements for various rigid pavement types. (AV# 00521)
Target audience: Maintenance workers, Road Surface, Maintenance, Videocassette

Leveling Seminar

Product: Course
Date produced: 1992
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, HERPICC, Purdue University, 1284 Civil Engineering Building, West Lafayette, IN 47907-1284 (317) 494-5017
Cost/terms: May duplicate

Description: This course is taught in two parts. The first part is classroom format, where the basic principles of leveling are introduced. The second part is a hands-on field exercise, which allows participants a chance to apply the principles taught in the classroom. Topics include:

- types of levels used in construction and maintenance;
- means of checking the operation of a level;
- leveling for setting elevations; and
- level loops and proper format for level notes.

Target audience: Those involved in leveling

Low Volume Road Maintenance

Product: Videocassette, 14 minutes
Date produced: 1983
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch; $35 for VHS
Description: This videocassette discusses maintenance methods for low volume roads, with the accent on the similarities in methods among road types. (AV# 00106)
Target audience: Supervisors and work crews

Managing Utility Cuts

Product: Fact sheet (8 pages)
Date produced: 1989
Source: Wisconsin Transportation Information Center
Contact: Robert Fey, Program Director, Wisconsin Transportation Information Center, University of Wisconsin-Madison, 432 North Lake Street, Madison, WI 53706 (608) 262-8592
Cost/terms: Free, may duplicate
Description: This fact sheet describes the policy and technical procedures local road agencies can use to control pavement damage from utility cuts. Example permits and trench backfill details are included.
Target audience: Local road staff and elected officials

Materials Inspection

Product: Videocassette
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: Videocassette presents a day in the life of a materials inspector. The program covers testing methods for aggregate materials and includes sampling procedures, wash tests and gradation tests. (AV# 00122)
Target audience: Materials inspectors

Mays Ride Meter

Product: Manual
Date produced: 1981
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy; private $3/can't duplicate
Description: This manual covers the use of the Mays Ride Meter to evaluate pavement roughness and ride quality. (L0200A)
Target audience: Design and maintenance engineers

Manual Pothole Patching

Product: Videocassette, 19 minutes
Date produced: 1991
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch; $35 for VHS
Description: This videocassette covers current Pennsylvania Department of Transportation policies on pothole patching. (AV# 01345)
Target audience: Supervisors and work crews

Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types

Product: Manual (112 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $14
Description: This manual is a practical guide to asphalt mix design (Marshall or Hveen). (MS-2)
Target audience: Engineers, technicians

Model Construction Specifications for Asphalt Concrete and Other Plant-Mix Types

Product: Manual (64 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $8
Description: This manual offers advice on procedures for developing specifications and tips on construction methods. It also includes model construction specifications for hot-mix asphalt concrete and sand asphalt. (SS-1)
Target audience: Engineers, managers, specification developers

Moisture in Asphaltic Concrete Paving Mixture

Product: Manual
Date produced: 1991
Source: Louisiana Transportation Research Center
Contact: Joe T. Baker, Director of Technology Transfer, Louisiana Transportation Research Center, 4101 Gourrier Avenue, Baton Rouge, LA 70808 (504) 767
Cost/terms: $8
Description: This manual describes the correct testing procedures to be used in performing Department of Transportation and Development TR 322, Modified Lottman.
Target audience: Asphaltic concrete laboratory technicians

Nuclear Testing

Product: Slides, workbook
Date produced: 1981
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies six-weeks loan/may duplicate, private $25 to loan/can't duplicate, workbook $10 if sold separately
Description: This program used 120 slides (70 minutes) and a workbook to cover the operation of nuclear testing devices. (C0303A)
Target audience: Inspection, engineers, and technicians

Orientation: Soils Exploration Personnel

Product: Slides
Date produced: 1981
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies six-weeks loan/may duplicate, private $25 to loan/can't duplicate
Description: This audiovisual course uses 25 slides (seven minutes) to provide a general orientation to acquaint new employees with policy and procedures specific to deep borings soils exploration crew. (L0301A)
Target audience: Soil exploration crews

An Overview of Recycling and Reclamation Methods for Asphalt Pavement Rehabilitation

Product: Text
Source: Asphalt Recycling & Reclaiming Association
Contact: ARRA, #3 Church Circle, Suite 250, Annapolis, MD 21401 (410) 267-7546
Cost/terms: $3.45 including shipping and handling; quantity discounts are available

Description: This publication offers concise explanation of rehabilitation methods and pavement conditions, including surface defects, deformation, cracking, maintenance patching, problem base/subgrade, and ride quality/roughness and concludes with a selection guide.
Target audience: General

PCA Soil Primer

Product: Manual (40 pages)
Date produced: Revised 1992 edition
Source: Portland Cement Association
Contact: Wayne S. Adaska, Director Public Works, Portland Cement Association, 5420 Old Orchard Road, Skokie, IL 60077-1083 (708) 966-9559
Cost/terms: $12, discounts available
Description: This manual provides an introduction to soil engineering properties for design, construction and performance of pavements. It includes definitions of soil terms and test commonly used. It also describes soil surveys and sampling, soil-bearing value test and examples of soil surveys, tests and analyses.
Target audience: Engineers, soils and testing personnel

Partial-Depth Repair of Concrete Pavements

Product: Slides (47) with script (Code No. SS503P)
Date produced: 1991
Source: American Concrete Pavement Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $63
Description: These slides provide a complete description of the proper procedures, tools and methodology needed for partial-depth repair of spalled joints, cracks and other surface problems. A companion publication, "TB003 Guidelines for Partial-Depth Repair," is available as a study reference.
Target audience: Engineers

Pavement Cuts for Utilities: A Guide for Their Management

Product: Text
Date produced: 1984
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost/terms: One copy free, multiple copies at cost
Description: This text, by J. M. Iddins and C.F. Scholer, was written to show the methods which work well for several states, counties, and cities. It includes information on specifications and procedures (performance bonds, permits, inspection procedures, emergency procedures, and penalties for non-compliance), testing, traffic control, methods of compaction, and alternatives to utility cuts.
Target audience: Elected officials, managers

Pavement Design Seminar for Local Streets and Roads

Product: Course materials
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost/terms: Free loan, may duplicate
Description: This seminar supplements the FHWA publication, *Surface Design and Rehabilitation Guidelines for Low-Volume Roads*, Report No. FHWA/TS-87/225.
Target audience: County and city highway engineers and consultants

Pavement Maintenance and Pavement Management

Product: Manual
Date produced: 1986
Source: Cornell Local Roads Program
Contact: Toni Rosenbaum, Program Manager,

Cornell Local Roads Program, 416 Riley Robb Hall, Ithaca, NY 14853-5701 (607) 255-8033
Cost/terms: Free to highway and public works officials, $5 to others
Description: The contents of the manual include local highway costs in New York State, good roads cost less than bad roads, pavement maintenance methods, pavement maintenance problems, road condition evaluation, and choosing the treatment.
Target audience: Those responsible for maintaining and managing highways

Pavement Smoothness

Product: Manual (20 pages)
Date produced: Revised 1993
Source: National Asphalt Pavement Association
Contact: NAPA, NAPA Building, 5100 Forbes Blvd., Lanham, MD 20706-4413 (301) 731-4748, Fax: (301) 731-4621
Cost/terms: $7, discounts for public agencies and educational institutions, discount for quantity
Description: Smooth pavements increase roadway safety, vehicle operating speeds, ride quality, driver comfort, vehicle behavior (braking, steering and control) and lower vehicle operating costs. In addition, smooth pavements provide improved long-term pavement performance and reduce annual pavement maintenance costs. This publication covers these factors, plus outlines techniques for achieving smoothness. (IS-111)
Target audience: Inspectors

Pennsylvania Roadway Management System

Product: Videocassette, 20 minutes
Date produced: 1986
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: This videocassette provides an overview of a newly developed computer system for tracking roadway information. (AV# 00680)
Target audience: Persons responsible for maintenance management

Placement of Pre-mix Asphalt, Hardsurfacing a Gravel Road

Product: Videocassette (VHS)
Date produced: 1991
Source: Missouri Highway and Transportation Department
Contact: Jim Radmacher, Technology Transfer Engineer, Planning Division, Missouri Highway and Transportation Department, P. O. Box 270, Jefferson City, MO 65102 (314) 751-0852
Cost/terms: Free loan
Description: This videocassette was developed from a pilot workshop in which the Missouri Highway and Transportation Department motor grader operators demonstrated actual application techniques for pre-mix asphalt delivered to the roadway.
Target audience: Supervisors and work crews

Placing Asphalt Hot-Mix

Product: Slide-tape
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $100
Description: This slide-tape program describes the necessary steps for quality paving with asphalt plant mix. It is intended as an instructional aid for the paving inspector and contractor's work force and groups dealing with asphalt paving technology. It includes 80 color slides, and a 20 minute audiotape. (VA-14)
Target audience: Inspectors

Planning Maintenance Operations

Product: Slides
Date produced: 1977
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research

Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies six-weeks loan/may duplicate; private $25 to loan/can't duplicate
Description: This is a program, supported by 359 slides, designed to teach maintenance superintendents and foremen the proper techniques of planning and scheduling their maintenance work. (M7010A)
Target audience: Maintenance superintendents and foremen

Pothole Repair
Product: Videocassette (VHS), 10 minutes
Source: Montana State University
Contact: John Hopkins, Director, LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717-0390 (406) 994-6100
Cost/terms: Free loan
Description: This videocassette covers the following key pothole repair steps: signing, marking, cutting, cleaning, tacking, filling, and compacting.
Target audience: Engineers, maintenance supervisors and workers

Principles of Construction of Hot-Mix Asphalt Pavements
Product: Manual (300 pages)
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $18
Description: This manual describes and emphasizes the essential quality control procedures for the construction of asphalt pavements. Topics include the importance of inspection and the inspector; materials; mix design; and plant operations. It is written for a course for engineers, inspectors, and technicians involved in all phases of asphalt construction. (MS-22)
Target audience: Engineers, contractors, inspectors

Properties an Uses of Cement-Modified Soil
Product: Manual (10 pages)
Date produced: 1992
Source: Portland Cement Association
Contact: Wayne S. Adaska, Director Public Works, Portland Cement Association, 5400 Old Orchard Road, Skokie, IL 60077-1083 (708) 966-6200
Cost/terms: $3.60, discounts available
Description: This manual describes cement-modified soil and how it is used to improve the engineering properties of unstable or highly plastic soils. Information is given on properties, mix design and construction.
Target audience: Engineers, pavement officials, soils and testing personnel

Recycling Failed Flexible Pavements
Product: Manual (4 pages)
Date produced: 1992
Source: Portland Cement Association
Contact: Wayne S. Adaska, Director Public Works, Portland Cement Association, 5400 Old Orchard Road, Skokie, IL 60077-1083 (708) 966-6200
Cost/terms: $1.50, discounts available
Description: This manual describes the procedure for incorporating portland cement with old asphalt and base course materials and processing them into soil-cement.
Target audience: Engineers, pavement officials, soils and testing personnel

Resealing Concrete Pavement Joints
Product: Slides (31) with script (Code Number SS512P)
Date produced: 1991
Source: American Concrete Pavement Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $42
Description: These slides can be used to discuss resealing methods needed in order to lengthen concrete pavement life by limiting water and incompressible materials infiltration

into the jointing system. A companion publication, "Joint and Crack Sealing and Repair of Concrete Pavements," is available as a study reference.
Target audience: Engineers

ROADS 4.0: Maintenance Program

Product: Computer program and bi-monthly support newsletter, *Keystrokes*, provided for all purchasers, demonstration disk available
Date produced: 1993
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director, Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (800) 428-7639
Cost/terms: $75
Description: ROADS helps road and street departments monitor the operation and costs of their road maintenance by road sections, including garage and administrative overhead. ROADS provides road officials with industry specific information about their own department's costs of labor, materials and equipment. It gives cost estimate and analysis information, including graphics, that can help an administrator plan the department's budget.
Target audience: Road and street departments

Road Maintenance Cost Analysis Part 1: Equipment Costs

Product: Videocassette (VHS), 50 minutes
Source: Montana State University
Contact: John Hopkins, Director, LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717-0390 (406) 994-6100
Cost/terms: Free loan
Description: This video presentation is the first of a four-part series on road maintenance costs analysis. It explains the basics of equipment management, discusses various depreciation techniques, and discusses the importance of properly estimating costs prior to budget preparation. Target audience: Chief engineers and equipment accountants

Road Maintenance Cost Analysis Part 2: Maintenance and Operation

Product: Videocassette (VHS), 40 minutes
Source: Montana State University
Contact: John Hopkins, Director, LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717-0390 (406) 994-6100
Cost/terms: Free loan
Description: This video presentation covers the basics of maintenance and operating costs. It takes the audience through the process of estimating maintenance and operating costs using specific examples for labor, equipment, materials, and overhead. It also provides a simple maintenance management system.
Target audience: Chief engineers, superintendents and accountants

Road Maintenance Cost Analysis Part 3: Cost of Deferred Maintenance

Product: Videocassette (VHS), 55 minutes
Source: Montana State University
Contact: John Hopkins, Director, LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717-0390 (406) 994-6100
Cost/terms: Free loan
Description: This videocassette presentation is the third in a series on maintenance costs. It discusses a basic method of determining the economics of deferring maintenance and provides, in essence, a simplified pavement management system in which alternate strategies of road surface treatment are analyzed. It helps define what and when certain types of maintenance or construction should be performed.
Target audience: Chief engineers, maintenance supervisors, and accountants

Road Surface Management

Product: Course
Source: Montana LTAP
Contact: John L. Hopkins, Director, Montana LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717 (800) 541-6671

Cost/terms: $400/day plus travel
Description: This course on road surface management is intended for elected officials and supervisors.
Target audience: Elected officials and supervisors

Road Surface Management for Maine Towns

Product: Manual, self-study text, computer program
Date produced: 1990, updated 1992
Source: Adapted from New Hampshire T^2 Program
Contact: Pete Coughlan, Director, Maine Local Roads Center, Technical Services Division, Maine Department of Transportation, State House Station 16, Augusta, ME 04333 (207) 287-2151
Cost/terms: Free to T^2 Centers, $25 for all others
Description: This is the New Hampshire Road Surface Management System (RSMS) adapted and improved for Maine's use. In addition to New Hampshire's manual, there is additional material on the anatomy of a good road (paved or unpaved), drainage, maintenance and rehabilitation techniques, repair strategies, and implementation of RSMS.
Target audience: Municipal/county officials, public works officials

Roadway Fundamentals for Municipal Officials

Product: Manual prepared for T^2 workshop
Date produced: 1987
Source: Adapted from Cornell Local Roads Program (New York)
Contact: Pete Coughlan, Director, Maine Local Roads Center, Technical Services Division, Maine Department of Transportation, State House Station 16, Augusta, ME 04333 (207) 287-2151
Cost/terms: May duplicate, free to T^2 Centers, $25 to all others
Description: This manual presents the basic concepts of roadway design and construction. It covers traffic, drainage, materials, asphalts, paving, and road geometry.
Target audience: Municipal officials, road commissioners, foremen

Rolling and Compaction of Asphalt Pavement

Product: Slide-tape
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $100
Description: This slide-tape program is an effective means for training construction and inspection personnel in the proper procedures for compacting asphalt pavements. It illustrates how mix temperature, rolling pattern, number of passes, roller speed, roller types, and joint rolling techniques are necessary for quality construction. It includes 80 color slides and a 40 minute audiotape. VA-21
Target audience: Construction crews and inspectors

Rubber Tire Roller Calibration

Product: Videocassette, 16 minutes
Date produced: 1991
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch; $35 for VHS
Description: This videocassette covers equipment calibration and further enhances the quality of seal coat and surface treatment projects. (AV# 01394)
Target audience: Supervisors and work crews

Safety in Soils Experience

Product: Slides
Date produced: 1991
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA

70804-9245 (504) 767-9116
Cost/terms: Public agencies six-weeks loan/may duplicate; private $25 to loan/can't duplicate
Description: This course covers general safety precautions for deep boring crews. (L0302B)
Target audience: Drilling rig crews

Sampling and Testing: Excavation and Embankment and Base Inspection

Product: Slides, workbook
Date produced: 1981
Source: Louisiana Transportation Research Center
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies six-week loan/may duplicate; private $25 to loan, can't duplicate, workbook $15 if bought separately
Description: This course uses 239 slides with a workbook to introduce procedures and techniques used in the field by construction personnel involved in earthwork activities. The course covers sampling, testing, and accepting materials and in-place construction. (C0304A)
Target audience: Field construction personnel

Sand Equivalent Test

Product: Videocassette
Date produced: 1993
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies free six-week loan/may duplicate' private $85 to buy/no duplication
Description: This videocassette describes DOTD TR 120, Sand Equivalent Value of Soils and Fine Aggregate. It demonstrates the proper technique for preparing samples, performing the test procedure and obtaining results for clay content in soils and fine aggregate used in asphaltic concrete.
Target audience: Asphaltic concrete laboratory technicians

Scale-resistant Concrete Pavements

Product: Manual
Date produced: 1992
Source: Portland Concrete Association/American Concrete Pavements Association
Contact: Brian T. Bock, Director of Streets and Local Roads, American Concrete Pavements Association, 3800 Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $1, discounts available
Description: This manual describes the practices required to design and construct concrete pavements that have excellent resistance to surface scaling due to freezing and thawing and the use of deicing chemicals.
Target audience: Construction and maintenance engineers

Scrap Tire Utilization Technologies

Product: Manual (32 pages)
Date produced: 1993
Source: National Asphalt Pavement Association
Contact: NAPA, NAPA Building, 5100 Forbes Blvd., Lanham, MD 20706-4413 (301) 731-4748, Fax (301) 731-4621
Cost/terms: No charge
Description: This publication is designed to assist those responsible for assessing options and finding solutions for the problems of tire disposal by providing a comparison of the current uses that have the potential for substantially reducing the scrap tire problem. Each technology is evaluated using engineering feasibility and economic analysis. Potential environmental implications are also considered. (IS-116)
Target audience: General

Seal Coating and Other Asphalt Surface Treatments

Product: Fact sheet
Source: Transportation Information Center, University of Wisconsin-Madison
Contact: Don Walker or Bob Fey, Transportation Information Center, University of Wiscon-

sin-Madison, 432 North Lake Street, Madison, WI 53706 (800) 442-4615
Cost/terms: Free loan, may duplicate
Description: This fact sheet is a revision of the original #10. It discusses the use and proper application of common surface treatments. It also discusses the selection of proper grades of asphalt and aggregate.
Target audience: Personnel responsible for the operation and maintenance of street and road repairs

Shoulder Cutting

Product: Videocassette, slides, workbook
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch, $35 for VHS
Description: These course materials, covering planning, safety, operations, and public relations, includes a workbook. (AV# 00349)
Target audience: Construction supervisors

Soil-Cement Inspector's Manual

Product: Manual (60 pages)
Date produced: 1980
Source: Portland Cement Association
Contact: Wayne S. Adaska, Director Public Works, Portland Cement Association, 5400 Old Orchard Road, Skokie, IL 60077-1083 (708) 966-6200
Cost/terms: $12, discounts available
Description: This manual outlines the duties of inspectors on soil-cement paving projects and points out construction procedures. Specific items are discussed in the text and tabulate din checklists. It includes sample problems that show typical calculations.
Target audience: Engineers, pavement officials, soils and testing personnel

Soils Exploration: Drilling Rig Operation

Product: Slides
Date produced: 1992
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies six-weeks loan/ may duplicate; private $25 to loan/can't duplicate
Description: This audiovisual course (221 slides, 60 minutes) covers the duties and responsibilities of crew positions; description and function of equipment used; normal operating procedures for drilling rig and crew, and general safety for deep boring crews. (L0303B)
Target audience: Drilling rig crews

Soils Exploration: Shallow Borings

Product: Self-study course
Date produced: 1981
Source: Louisiana Department of Transportation and Development
Contact: Joe Baker, Director of Technology Transfer, Louisiana Transportation Research Center, P.O. Box 94245, Baton Rouge, LA 70804-9245 (504) 767-9116
Cost/terms: Public agencies one free copy; private-$10/can't duplicate
Description: This programmed self-study course covers the examination of soil properties and procedures used in shallow borings. (L0304A)
Target audience: Soil boring crews

Soils Manual for Design of Asphalt Pavement Structures

Product: Manual (260 pages), fourth edition
Source: Asphalt Institute
Contact: Russ Bentsen, Director of Publications, Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960
Cost/terms: $12 per copy post-free
Description: This manual presents data on the general classification of soil and determination of strength values for the design of asphalt pavement structures. (MS-10)
Target audience: Pavement designers

Subgrades

Product: Slides (24) with script (Code Number SS511P)
Date produced: 1991
Source: American Concrete Pavement Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $34
Description: This slide set gives basic data on placing, grading and compacting subgrade soils. It describes construction controls and testing required to produce a uniform, well-compacted subgrade. It includes an outline and 12-page script. A companion publication, "TB011P Subgrades and Subbases for Concrete Pavement," is available as a study reference.
Target audience: Engineers

Surface Treatment Equipment Calibration

Product: Videocassette, 17 minutes
Date produced: 1991
Source: Pennsylvania Department of Transportation
Contact: Pam Meloy, Assistant Librarian, Pennsylvania Department of Transportation Employees Library, 903 T&S Building, Harrisburg, PA 17120 (717) 787-6527
Cost/terms: Copies approximately $45 for 3/4-inch; $35 for VHS
Description: This videocassette covers equipment calibration and further enhances the quality of seal coat and surface treatment projects. (AV# 01393)
Target audience: Supervisors and work crews

Thickness Design for Concrete Highway and Street Pavements

Product: Manual
Date produced: 1984
Source: Portland Concrete Association/American Concrete Pavements Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavements Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $9, discounts may apply
Description: This manual discusses the determination of adequate pavement thickness to carry traffic loads. It explains a procedure which includes fatigue and erosion control design criteria for plain, reinforced and continually reinforced concrete pavements. It also evaluates the effects of concrete shoulders and lean concrete bases.
Target audience: Pavement design engineers

A Training Guide for Pavement Maintenance Personnel in Indiana's Counties, Cities, and Towns

Product: Text
Date produced: 1983
Source: Highway Extension and Research Project for Indiana Counties and Cities
Contact: Charles F. Scholer, Director; Highway Extension and Research Project for Indiana Counties and Cities, Purdue University, Civil Engineering Building, West Lafayette, IN 47907 (317) 494-5017
Cost/terms: One copy free, multiple copies at cost
Description: This text contains information on the causes of potholes, the consequences of potholes, general principles of pothole repair, specific pavement failures and patching guidelines, and suggested patch guidelines.
Target audience: Highway maintenance personnel

Unbonded Concrete Overlays

Product: Slides (59) plus script (Code Number SS505P)
Date produced: 1991
Source: American Concrete Pavement Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $100
Description: These slides provide guidance for design and construction decision-making. All aspects of the technique are covered from pre-

overlay repair, to interlayer selection to jointing. A companion publication, "TB005P Guidelines for Unbonded Concrete Overlays," is available as a study reference.
Target audience: Engineers

Upgrading Gravel Roads

Product: Videocassette (VHS), 22 minutes
Source: Montana State University
Contact: John Hopkins, Director, LTAP, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717-0390 (406) 994-6100
Cost/terms: Free loan
Description: The first part of this videocassette explains the importance of gravel roads in rural areas. It highlights problems such as poor materials, narrow rights-of-way, decreasing budgets, and lack of equipment. The second part demonstrates how Montana Department of Transportation used a near-site plant mixer to add asphalt and water to sand and gravel in order to create a good base.
Target audience: Engineers, supervisors, and maintenance workers

Upgrading Your Roads

Product: Manual, course materials
Date produced: 1993
Source: Cornell Local Roads Program
Contact: Toni Rosenbaum, Program Manager, Cornell Local Roads Program, 416 Riley-Robb Hall, Ithaca, NY 14853-5701 (607) 255-8033
Cost/terms: Free to highway and public works officials, $5 to others
Description: The course provides a strategy for establishing a long-range plan to upgrade road systems. It teaches how to diagnose failing pavements, pavement management, and how to identify rehabilitation and reconstruction options for pavements and gravel roads.
Target audience: Highway superintendents

Utility Cuts and Full-Depth Repairs in Concrete Streets

Product: Manual (8 pages)
Date produced: 1989
Source: American Concrete Pavements Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavements Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $2.40, discounts available
Description: This manual describes recommended practices for the restoration of trenches cut into concrete pavements, including removing concrete, excavating, backfilling (including flowable fill), designing concrete mix, and placing.
Target audience: City streets officials, maintenance personnel

Whitetopping

Product: Slides (48) with script (Code Number SS509P)
Date produced: 1991
Source: American Concrete Pavement Association
Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288
Cost/terms: $82
Description: These slides present a "how to" for this technique. Concrete overlays of asphalt pavements are described with charts, diagrams and photographs from recent projects. A companion publication, "TB009P Guidelines for Concrete Overlays of Existing Asphalt Pavements," is available as a study reference.
Target audience: Engineers

Other Resources

American Concrete Pavement Association Publications Catalog

Contact: Brian T. Bock, Director of Streets and Low Volume Roads, American Concrete Pavement Association, 3800 North Wilke Road, Suite 490, Arlington Heights, IL 60004 (708) 966-6288

Description: This catalog presents information on concrete pavements. More than 80 publications, audiovisual materials and computer programs are available. In 1993 the Portland Cement Association's pavement operations merged with the American Concrete Pavement Association. This catalog combines materials of both groups. Publications include:

- Thickness Design for Concrete Highway and Street Pavements;
- Design and Construction of Joints in Concrete Streets;
- Suggested Specifications for Construction of Concrete Streets;
- Design of Concrete Pavement for City Streets;;
- Utility Cuts and Full-Depth Repairs in Concrete Streets;
- Proper Use of Isolation and Expansion Joints in Concrete Pavements;
- Effect of Pavement Surface Type on Fuel Consumption;
- Effect of High Tire Pressures on Concrete Pavement Performance; and
- Guidelines for the Protection and Repair of Concrete Pavements Rained on During Construction.

In addition, the catalog offers many technical bulletins covering the design, construction and maintenance. Computer programs include Pavement Analysis Software (PAS) and PCAPAV - thickness Design of Concrete Highway and Street Pavements.

American Association of State Highway and Transportation Officials Publications

Contact: American Association of State Highway and Transportation Officials, 444 North Capitol Street NW, Suite 225, Washington, DC 20001 (202) 624-5800

Description: This catalog provides information on transportation topics, including periodicals, reference books and proceedings on materials, bridges and structures, construction and right-of-way, design and traffic, maintenance, highway transport, planning and environment, and administration and economics.

American Public Works Association

Contact: American Public Works Association, 106 West 11th Street, Kansas City, MO 64105-1806 (816) 472-6100, Fax: (816) 472-1610

Description:
Education Foundation: The purpose of APWA's Educational Program Series is to provide administrative and supervisory personnel with timely, practical knowledge to use in their day-to-day operations. APWA offers one- and two-day workshops and clinics on a variety of topics related to public works operations.
Information Services: APWA Information Services' collection contains over 35,000 reference materials, including access to more than 350 periodicals and several hundred Federal, State and local documents, planning reports, manuals, guidelines, and specifications. APWA members and non-members can select from the following subscription services. APWA documents provides reference materials to subscribers at a per page fee plus postage and handling. APWA InfoLink entitles public agency or company subscribers to receive unlimited access of all of APWA's library reference facilities for an annual fee.
Publications: The American Public Works Association offers a variety of manuals to help public works professionals manage a range of public works problems and issues more effectively. Transportation- and management-related publications from the American Public Works Association include:

- Alternative Fuels,
- The Hole Story,
- Public Works Management Practices,
- Managing Public Equipment,
- Contracting Maintenance Services,
- Water Quality: Urban Runoff Solutions,
- Tackling Gridlock, and
- Plan. Predict. Prevent. How to Reinvest in Public Buildings.

American Road and Transportation Builders Association Publications and Audiovisual Materials

Contact: American Road and Transportation Builders Association (ARTBA), 501 School Street SW, 8th Floor, Washington, DC 20024 (202) 488-2722
Description: A list of publications and audiovisual programs available from ARTBA includes directories, professional guides and manuals, slide-tape programs, history, legislative reports, and subscriptions to *Transportation Builder* magazine.

American Society of Civil Engineers Continuing Education

Contact: American Society of Civil Engineers (ASCE), Continuing Education, 345 East 47th Street, New York, NY 10017 (800) 548-2723, Fax: (212) 421-1826
Description: Professional development courses include:

- Audioconference on Bridge Inspection and Repair Procedures for Fatigue Damage;
- Bridge Rehabilitation: Evaluation and Upgrading;
- Construction Project Administration, On-Site Supervision and Claims Avoidance;
- Excavation Safety: How to Comply with OSHA's "Construction Standards in Excavations;"
- Quality in the Constructed Project;
- How to Install Underground Utilities Using Trenchless Technology;
- NPDES Storm Water Permit Compliance: How to Comply with EPA's NPDES Permit Requirements for Industrial and Construction Storm Water Discharges;
- Wetlands and 404 Permitting: How to Get Through the Process;
- Using Asphalt Rubber Paving Materials;
- Management and Business Skills for the New Engineer; and
- Computer Workshops (Bridge Scour).

American Traffic Safety Services Association

Contact: American Traffic Safety Services Association, ATSSA Building, 5440 Jefferson Davis Highway, Fredericksburg, VA 22407 (703) 898-5400, (800) 272-8772
Description: The American Traffic Safety Services Association (ATSSA) offers publications, videocassettes, training courses, and certification programs. ATSSA offers a certification program for work site traffic supervisors and technicians and a work site traffic supervisors training course. ATSSA also offers a

course in traffic control in urban/utility work zones. ATSSA publications include the ATSSA Guide for Work Zone Traffic Control and Flagging Handbook.

Asphalt Emulsion Manufacturers Association Publications

Contact: Asphalt Emulsions Manufacturers Association, #3 Church Circle, Suite 250, Annapolis, MD 21401 (410) 267-0023
Cost/terms: Catalog available on request
Description: This catalog offers publications, including: *A Basic Asphalt Emulsion Manual, AEMA Recommended Performance Guidelines, 2nd edition,* mix descriptions brochure, pavement recycling brochure, surface treatments brochure, and proceedings.

Asphalt Institute Publications, Audiovisual Materials and Computer Programs:

Contact: Asphalt Institute, Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 (606) 288-4960, Fax (606) 288-4999
Description: This catalog contains publications, audiovisual materials and computer programs concerning asphalt materials. It includes manuals, specifications, research reports, educational materials, construction leaflets, computer programs, films, and slide-tape presentations.

Asphalt Recycling and Reclaiming Association Publications and Audiovisual Materials

Contact: Asphalt Recycling and Reclaiming Association, #3 Church Circle, Suite 250, Annapolis, MD 21401 (410) 267-0023
Cost/terms: Catalog available on request
Description: ARRA publications include materials on guideline specifications for cold planing, cold in-place recycling, hot-mix recycling, hot in-place recycling, full depth reclamation, cold planing, reclamation methods for asphalt pavement rehabilitation, and cold in-place recycling. Materials available from ARRA include videocassettes.

Associated General Contractors of America (AGC)

Contact: Associated General Contractors of America, Publications Department, 1957 E Street NW, Washington, DC 20006-5199 (202) 393-2040
Description: AGC publications include:

- Occupational Safety and Health Standards for Construction;
- Equal Employment Opportunity Manual for Construction;
- ADA Compliance Guidebook: A Checklist for Your Building; and
- Partnering: A Concept for Success.

Videocassettes include:

- Construction Tool Box Safety Talks;
- Think Again...Substance Abuse on the Jobsite;
- Hazard Communications: "The System That Works;"
- Clearing the Air: Confined Space Entry;
- Success at the Top: Stairway and Ladder Safety;
- "The Choice is Yours" - AGC Guide to Personal Protective Equipment;
- On Solid Ground: A Plan for Safe Excavation and Trenching;
- The Winning Ticket: Housekeeping on the Jobsite;
- Caught in Time: Fall Protection;
- Play it Safe: An Overview of Crane Safety;
- The Rules of the Game - Employee Safety Orientation;
- Handle with Care: Jobsite Hazardous Waste Safety
- Controlling the Load: Crane Rigging Safety;
- On Your Guard: Power Tool Safety;
- Back to Basics: Back Injury Prevention;
- Make the Right Move: Materials Handling Safety;
- Avoid the Heat: Fire Prevention in Construction; and
- Partnering: A Concept for Success.

Center for Microcomputers in Transportation (McTrans)

Contact: William M. Sampson, McTrans Manager, University of Florida, 512 Weil Hall, Gainesville,

FL 32611-2083 (904) 392-0378, FAX (904) 392-3224, electronic bulletin board (904) 392-3225, messages (800) 226-1013
Cost/terms: Catalog available on request
Description: McTrans is a major source of public domain, shareware, and privately developed software in the transportation field. McTrans offers software in highway engineering, construction management, transportation planning, traffic engineering, safety and accident records, and transit operations. McTrans also offers some general purpose utilities. Technical support is available for most of the software, as well as training on some packages. A 24-hour electronic bulletin board, McLink, is also available. Membership is free and includes a quarterly newsletter and annual catalog.

Concrete Reinforcing Steel Institute Publications

Contact: Ted Neff, Concrete Reinforcing Steel Institute, 933 North Plum Grove Road, Schaumburg, IL 60173-4758 (708) 517-1200 Fax: (208) 517-1206
Cost/terms: Catalog available on request
Description: This catalog includes publications such as CRSI Handbook, Structural Design Guide to ACI Building Code, Practical Design of Reinforced Concrete, CRSI Manual of Standard Practice, detailing aids, design aids, placing aids, Design of Continuously Reinforced Concrete for Highways, Construction of Continuously Reinforced Pavements, A New Look at Short-Span Reinforced Concrete Bridges, personal computer programs, structural bulletins, etc.

Institute of Transportation Engineers (ITE)

Contact: Institute of Transportation Engineers, 525 School Street SW, Suite 410, Washington, DC 20004-2729 (202) 554-8050
Cost/terms: Catalog available on request
Description: The Institute of Transportation Engineers (ITE) is a professional society of transportation engineers and planner responsible for the safe and efficient movement of people and goods on streets, highways and transit systems. ITE's best sellers include:

- 1992 Compendium of Technical Papers;
- Manual of Traffic Signal Design;
- Traffic Engineering Handbook, 4th Edition;
- Traffic Access and Impact Studies for Site Development;
- Transportation and Land Development;
- Manual of Traffic Engineering Studies;
- Traffic Detector Handbook, 2nd Edition;
- Transportation Planning Handbook;
- Turning Vehicle Templates - English System; and
- Trip Generation.

In addition, ITE and FHWA has joined to address needs in urban traffic engineering and traffic control systems in a two-year effort through September 1994. As part of this project a central clearinghouse and technical request service has been established at ITE to provide information on urban traffic engineering technology, education and training, operation and maintenance, traffic control systems and innovations to address traffic congestion. The telephone number for the ITE Urban Traffic Engineering Clearinghouse is (202) 554-8050. The ITE Bulletin Board System may be accessed using a computer with communications software and a modem by calling (800) 982-4683.

International Municipal Signal Association

Contact: IMSA, P.O. Box 539, Newark, NY 14513 (315) 331-2182, Fax (315) 331-8205 (800) 723-4672
Description: IMSA is an educational, non-profit organization which promotes increased knowledge and competence in all aspects of public safety. Transportation-related certification programs offered by IMSA include work zone safety, signs and marking technician, traffic signal technician, roadway lighting, public safety dispatcher, fire claim inspector and municipal systems.

International Road Federation Video Training Aids

Contact: International Road Federation, 525 School Street, SW, Washington, DC 20024 (202) 554-2106, Fax (202) 479-0828

Description: The IRF Videotape Training Library includes:

- Series 01 - Road Maintenance (18 titles);
- Series 02 - Equipment Maintenance and Operation (18 titles); and
- Series 03 - Construction Inspection (9 titles); and
- Series 04 - Cement and Concrete Testing (7 titles).

International Slurry Surfacing Association

Contact: International Slurry Surfacing Association, 1101 Connecticut Avenue NW, Suite 700, Washington, DC 20036 (202) 857-1160, Fax (202) 223-4579

Description: ISSA offers videocassettes; guideline specifications; information on slurry and micro surfacing uses and applications, aggregates, emulsions and design; design technical bulletins, and convention proceedings.

National Asphalt Pavement Association

Contact: National Asphalt Pavement Association, NAPA Building, 5100 Forbes Boulevard, Lanham, MD 20706-4413 (301) 731-4748

Description: NAPA is a national trade association representing the interests of the U.S. Hot Mix Asphalt (HMA) producers and paving contractors. Governmental agencies and educational institutions receive discounts on publications. Publications include:

- Hot-Mix Asphalt Paving Handbook;
- Hot Mix Asphalt Materials, Mixture Design and Construction;
- Hot Mix Asphalt Segregation: Causes and Cures;
- Moisture Susceptibility of HMA Mixes: Identification of Problem and Recommended Solutions;
- Asphalt Treated Permeable Materials - its Evolution and Application;
- The Effects of Testing and Production Procedures on Mix Design;
- Current Industry Practices and Procedures for Determining Asphalt Cement Content in Hot Mix Asphalt;
- Testing and Evaluation of Large Stone Mixes Using Marshall Mix Design Procedures;
- Tender Mixes: Probable Causes, Possible Remedies;
- Blistering in Asphalt Pavements: Causes and Cures;
- Hot Mix Asphalt Joint Construction;
- Pavement Smoothness;
- Rehabilitation of Portland Cement Concrete Pavements Using Hot Mix Asphalt Overlays;
- Cold Weather Compaction;
- Guidelines and Methodologies for the Rehabilitation of Rigid Highway Pavements Using Asphalt concrete Overlays;
- Constructing Quality Hot Mix Asphalt Pavements - A Troubleshooting Guide;
- Truck Driving Techniques;
- Effect of Silicones in Hot Mix Asphalt Pavements;
- Rolling and Compaction of Asphalt Pavement;
- Open-Graded Asphalt Friction Course;
- NAPA "Magic Motion" Metric Conversion Pocket Ruler;
- Pavement Life Cycle Costing; and
- Scrap Tire Utilization Technologies.

National Association of County Engineers

Contact: National Association of County Engineers (NACE), 440 First Street NW, Washington, DC 20001 (202) 393-5041

Cost/terms: Call contact for list of materials

Description: The National Association of County Engineers (NACE) offers training guides, action guides and videocassettes. The NACE Training Guide Series includes:

- Handbook on Training for Road Departments,
- Trainer's Guide,
- Blading Aggregate Surfaces,
- How to Talk and Communicate at the Same Time,
- Improving Traffic Maintenance,
- Maintaining Bridges After Inspection, and
- Tips for Conserving the Environment and Energy.

The NACE Action Guides include:

- Organization (1992 edition),
- Personnel (1992 edition),

- Financial Management (1992 edition),
- Maintenance Management (1992 edition),
- Administration of Bridge Inspection (1990 edition),
- Tort Liability (1992 edition),
- Safety Improvements (1990 edition),
- Road Programming (1992 edition),
- Road Surface Management (1992 edition),
- Drainage (1992 edition),
- Sub-surface Soils Exploration (1992 edition), and
- Soil Erosion and Water Pollution Prevention (1992 edition).

NACE videocassettes include Blading Unpaved Roads and Work Zone Safety for Rural Local Agencies.

National Highway Institute

Contact: Barry Nunemaker, Chief, State Programs Division, National Highway Institute, Federal Highway Administration, 6300 Georgetown Pike, McLean, VA 22101 (703) 285-2772

Description: The National Highway Institute (NHI) offers course in the following topics:

- metrics;
- structures and hydraulics;
- materials, pavements and base design;
- geotechnical;
- design and traffic operations;
- construction and maintenance;
- right-of-way;
- environment;
- planning;
- urban planning;
- business and public administration;
- financial management;
- civil rights;
- highway safety;
- motor carrier safety; and
- communication.

Courses may be sponsored by Federal, State and local highway and transportation agencies located within the United States, as well as other national and international entities engaged in highway work of interest to the United States. Catalog available upon request.

National Institute for Certification in Engineering Technologies

Contact: NICET, 1420 King Street, Alexandria, VA 22314-2794 (703) 684-2835

Description: NICET offers certification programs for engineering technicians who demonstrate competence and achievement. Transportation-related specialty programs include: bridge safety inspection, highway construction, highway design, highway maintenance, highway materials, highway surveys, and highway traffic operations. A general information booklet and technical content manuals for each specialty program are available at no charge.

National Stone Association

Contact: National Stone Association, 1415 Elliot Place, NW, Washington, DC 20007 (202) 342-1100, (800) 342-1415

Description: National Stone Association publications include:

- Aggregate Handbook
- Design Guide for Parking Areas
- Flexible Pavement Design Guide for Roads and Streets
- Highway Shoulders
- Quality Concrete With Crushed Stone Aggregate
- Stone Sand for Portland Cement Concrete.

Northwestern University Traffic Institute

Contact: Northwestern University Traffic Institute, 405 Church Street, P.O. Box 1409, Evanston, IL 60204 (800) 323-4011

Description:

Traffic Engineering Division: This catalog describes continuing education courses on geometric design, highway capacity, identification and treatment of high hazard locations, legal liability and the highway professional, roadside design, traffic engineering for technicians, traffic accident reconstruction, traffic accident records and analysis, traffic management of land development, traffic signals, and microcomputers in transportation engineering.

Book Department: This catalog describes Traffic Institute publications on accident investigation (including computer software), management, supervision, criminal law, and traffic law. It also includes correspondence courses and driving under the influence videotapes.

PC-TRANS

Contact: PC-TRANS, Kansas University Transportation Center, 2011 Learned Hall, Lawrence, KS 66045 (913) 864-5655, FAX (913) 864-3199
Cost/terms: Free catalog available on request
Description: PC-TRANS offers a variety of services and products for transportation professionals utilizing computer technology, including the following:

- *pc-trans magazine* which provides technical support and information for transportation professionals at all levels of microcomputing expertise;
- *PC-TRANS Software Distribution Service Catalog* which lists software from FHWA, other public agencies, and private vendors offered through the PC-TRANS software distribution service;
- *PCs in Transportation Software Directory* which helps locate over 650 transportation-related software programs;
- Hands-on workshops (notices appear in *pc-trans* magazine); and
- PC-TRANSPORT electronic bulletin board which offers public domain software available for downloading. Call (913) 864-5058 through a computer modem.

Pan American Institute of Highways

Contact: Greg Speier, Executive Director, Pan American Institute of Highways, 6300 Georgetown Pike - HHI-20, Turner-Fairbank Highway Research Center, McLean, VA 22101-2296 (703) 285-2604, Fax: (703) 285-2791
Description: The Pan American Institute of Highways (PIH) was established by the Pan American Highway Congress to act as a network between road and transportation organizations for transferring highway technology. PIH has developed a catalog describing the over 100 courses offered by 16 PIH Technology Transfer Centers from 10 Pam American countries. Catalog available upon request.

Portland Cement Association (PCA) Publications

Contact: Wayne S. Adaska, Director Public Works, Portland Cement Association, 5420 Old Orchard Road, Skokie, IL 60077-1083 (708) 966-6200
Cost/terms: Catalog available on request
Description: This catalog describes over 500 publications, slide sets and computer programs covering all aspects of cement and concrete. Topics include architectural concrete, bridges, paving, residential buildings, commercial buildings, structural design, maintenance and repair, research, inspections, testing, masonry mortars, plasters, training materials.

Public Risk Management Association (PRIMA)

Contact: PRIMA, 1117 North 19th Street, Suite 900, Arlington, VA 22209 (703) 528-7701, Fax (703) 528-7966
Description: PRIMA publications include:

- Public Sector Risk Management,
- Managing Public Agency Risks: Creative Approaches, Volumes I and II, and
- Tort Liability Today: A Guide for State and Local Governments

Videocassettes include:

- Shaping a Secure Future,
- The Case of the Maintenance Man Who Fell Into Trouble,
- Assembling the Safety and Loss Control Puzzle,
- Setting Up a Risk Management Program, and
- What Every Manager Should Know About Risk Management.

Salt Institute Publications and Audiovisual Materials

Contact: Salt Institute, 700 North Fairfax Street, #600, Alexandria, VA 22314-2040 (703) 549-4648
Cost/terms: Catalog available on request
Description: This list contains information on publications and audiovisual materials published by the Salt Institute. Audiovisual materials include *Snowfighting from A to Z* and *Sensible Salting Program*. Publications include:

- *Deicing Salt and Our Environment*;
- *Salt Storage Handbook*;
- *The Snowfighter's Handbook*; and
- *Snowball/Snowfighter*.

Steel Structures Painting Council

Contact: Steel Structures Painting Council, 4516 Henry Street, Pittsburgh, PA 15213 (412) 687-1113
Description: SSPC is an association for professional involved with protective coatings for industrial facilities and structures. In their publications catalog topics include:

- Painting Manual;
- visual standards;
- surface preparation;
- conference proceedings;
- coating evaluation;
- lead paint removal; and
- FHWA publications.

The SSPC also offers videotapes including:

- Videotape Training on Abrasives;
- Protective Coating Application and Inspection Videotape Training Series;
- Videotape Training Series on Protective Coatings; and
- SSPC Videotape Training (includes surface preparation, coatings technology, application of coatings, and quality control).

Transportation Research Board Publications

Contact: Transportation Research Board, Publications Sales, Box 289, Washington, DC 20055 (202) 334-3214
Cost/terms: Catalog available on request
Description: This catalog provides ordering information on recent publications by the Transportation Research Board, the Strategic Highway Research Program and the National Cooperative Research Programs. Over 800 publications are currently available covering a broad range of transportation-related topics in the modes of highway, rail, air, inter-modal freight, and mass transportation. The catalog includes a listing by subject area.

Wire Reinforcement Institute Publications

Contact: Wire Reinforcement Institute, Publications, 1101 Connecticut Avenue NW, Suite 700, Washington, DC 20036-4303 (202) 429-5125
Cost/terms: Catalog available on request
Description: Publications available from the Wire Reinforcement Institute include: *Concrete Overlays Reinforced/Welded Wire Fabric; Jointed Concrete Pavements Reinforced/Welded Wire; and Manual of Standard Practice, Welded Wire Fabric* (4th Edition).

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LTAP Technology Transfer Centers

Alabama: T^2 Program (AT^{2}P), Engineering Extension Service, 107 Ramsey Hall, Auburn University, AL 36849-5331 (205) 844-4370, Fax (205) 844-5715

Alaska: Transportation T^2 Program, 2301 Peger Road, Fairbanks, AK 99709-6394 (907) 451-5320, Fax (907) 451-2313

Arizona: CATSR/T^2 Program, Center for Advanced Transportation Systems Research, Arizona State University, Box 876306, Tempe, AZ 85287-6306 (602) 965-2744, Fax (602) 965-2728

Arkansas: Arkansas State Highway and Transportation Department, P.O. Box 2261, Little Rock, AR 72203 (501) 569-2249, In-state (800) 344-1285, Fax (501) 569-2476

California: University of California T^2 Program, ITS Extension Programs, Richmond Field Station, 1301 So. 46th Street, Building 452, Richmond, CA 94804 (510) 231-9590, Fax (510) 231-9589, Electronic Bulletin Board (510) 642-7088

Colorado: Transportation Information Program (COTIP), Colorado State University, ERC A113, Fort Collins, CO 80523 (303) 491-8648, Fax (303) 491-8671, In-state (800) 262-ROAD

Connecticut: T^2 Center, Transportation Institute, 191 Auditorium Road, U-37TI, University of Connecticut, Storrs, CT 06269-3037 (203) 486-5400, Fax (203) 486-2298

Delaware: Delaware Department of Transportation T^2 Center, P.O. Box 778, Dover, DE 19903 (302) 739-3267, Fax (302) 739-3447

Florida: T^2 Program, 512 Weil Hall, University of Florida, Gainesville, FL 32611-2083 (904) 392-0378, Fax (904) 392-3224, In-state (800) 226-1013, Electronic Bulletin Board (904) 392-3225

Georgia: Georgia Department of Transportation's T^2 Center, No. 2 Capitol Square, Room 301, Atlanta, GA 30334-1002 (404) 656-5364, Fax (404) 656-3507, In-state (800) 869-1040

Hawaii: T^2 Program, 2800 Woodlawn Drive, Suite 280, Honolulu, HI 96822 (808) 539-3823, Fax (808) 539-3842

Idaho: T^2 Center, P.O. Box 7129, Boise, ID 83707-1129 (208) 334-8271, Fax (208) 334-3858, In-state (800) 762-4208

Illinois: T^2 Program, Illinois Department of Transportation, 2300 South Dirksen Parkway, Room 205, Springfield, IL 62764 (217) 785-5048, Fax (217) 782-3971, Electronic Bulletin Board (217) 524-5330

Indiana: Highway Extension and Research Program for Indiana Counties and Cities (HERPICC), 1284 Civil Engineering Building, Purdue University, West Lafayette, IN 47907-1284 (317) 494-2164, Fax (317) 496-1176, In-state (800) 428-7639

Iowa: Iowa Transportation Center, 2521 Elwood Drive, Suite 125, Ames, IA 50010-8263 (515) 294-8103, Fax (515) 294-0467, Electronic Bulletin Board (515) 294-9784, In-state BBS (800) 472-1254

Kansas: T^2 Program for Rural Transportation, 2011 Learned Hall, Lawrence, KS 66045 (913) 864-5658, Fax (913) 864-3199, Electronic Bulletin Board (913) 864-5058

Kentucky: Technology Exchange Program, Kentucky Transportation Center, University of Kentucky, Transportation Research Building, Lexington, KY 40506-0043 (606) 257-4513, Fax (606) 257-1815, In-state (800) 432-0719

Louisiana: LTAP-T^2 Center, Louisiana State University, 4101 Gourrier Avenue, Baton Rouge, LA 70808-4443 (504) 767-9117, Fax (504) 767-9156, In-state (800) 256-1567

Maine: Maine Local Roads Center, Maine Department of Transportation, Technical Services Division, Station 16, Augusta, ME 04333 (207) 287-2151, Fax (207) 287-2896

Maryland: Transportation T^2 Program, University of Maryland, Department of Civil Engineering, College Park, MD 20742 (301) 405-2009, Fax (301) 405-2585

Massachusetts: Baystate Roads Program, 214 Marston Hall, Civil Engineering Department, University of Massachusetts, Amherst, MA 01003 (413) 545-2604, Fax (413) 545-2840, In-state (800) 374-ROAD

Michigan: Local Technical Assistance Program, Michigan Technological University, Department of Civil and Environmental Engineering, 1400 Townsend Drive, Houghton, MI 49931-1295 (906) 487-2102, Fax (906) 487-3409, Electronic Bulletin Board (906) 487-2148

Minnesota: T^2 Program, Center for Transportation Studies, University of Minnesota, 500 Pillsbury Drive SE, 110 Civil and Mineral Engineering Building, Minneapolis, MN 55455 (612) 625-5829, Fax (612) 625-6381

Mississippi: Mississippi Center for T^2, P.O. Box 18125, 1400 Lynch Street, Jackson, MS 39217-0625 (601) 968-2339, Fax (601) 973-3703; In-state (800) 634-4651

Missouri: T^2 Assistance Program, Missouri Highway and Transportation Department, P.O. Box 270, Jefferson City, MO 65102 (314) 751-0852, Fax (314) 751-6555

Montana: Local Technical Assistance Program, Department of Civil and Agricultural Engineering, Montana State University, Bozeman, MT 59717-0390 (406) 994-6101, Fax (406) 994-6105, In-state (800) 541-6671

Nebraska: T^2 Center, 205 NCCE, 33rd & Holdrege, University of Nebraska-Lincoln, Lincoln, NE 68583-0942 (402) 472-2844, Fax (402) 472-9688, In-state (800) 332-0265

Nevada: Transportation T^2 Center, College of Engineering/257, University of Nevada, Reno, NV 89557-0030 (702) 784-1433, Fax (702) 784-1429

New Hampshire: T^2 Center, 231 Kingsbury Hall, University of New Hampshire, Durham, NH 03824 (603) 862-2826, Fax (603) 862-2364, In-state (800) 423-0060

New Jersey: Rutgers Road T^2 (R^{2}T^2) Center, Building 4161 Livingston Campus, New Brunswick, NJ 08903 (908) 932-5074, Fax (908) 932-3586

New Mexico: Local T² Program, P.O. Box 1149, Santa Fe, NM 87504-1149 (505) 827-5281, Fax (505) 624-6085

New York: Cornell Local Roads Program, 416 Riley-Robb Hall, Ithaca, NY 14853-5701 (607) 255-8033, Fax (607) 255-4080

North Carolina: Technology Transfer Program, The University of North Carolina Institute for Transportation Research and Education, P.O. Box 17489, Raleigh, NC 27619-7489 (919) 878-8080, Fax (919) 878-8129

North Dakota: Transportation T² Center, Civil Engineering Department, CIE Building, Room 201H, North Dakota State University, Fargo, ND 58105 (701) 237-7051, Fax (701) 237-7195, In-state (800) 726-4143

Ohio: Transportation T² Center, 470 Hitchcock Hall, 2070 Neil Avenue, Columbus, OH 43210-1275 (614) 292-2871, Fax (614) 292-3780, In-state (800) 552-6891

Oklahoma: Center for Local Government Technology, 308 CITD, Oklahoma State University, Stillwater, OK 74074 (405) 744-6049, Fax (405) 744-7268

Oregon: T² Center, 2950 State Street, Room 103, Salem, OR 97310-0784 (503) 378-3421, Fax (503) 378-8974, In-state (800) 544-7134

Pennsylvania: LTAP-The Pennsylvania Local Roads Program, Penn State-Harrisburg, 68 CRAGS Building, 777 W. Harrisburg Pike, Middletown, PA 17057-4898 (717) 948-6098, Fax (717) 948-6031

Puerto Rico: Transportation T² Center, Civil Engineering Department, University of Puerto Rico, Mayaguez Campus, Mayaguez, PR 00681 (809) 834-6385, Fax (809) 265-5695

Rhode Island: T² Center, Rhode Island Department of Administration, Division of Planning, One Capitol Hill, Providence, RI 02908-5872 (401) 277-1235, Fax (401) 277-2083

South Carolina: Transportation T² Service, Department of Civil Engineering, Clemson University, Clemson, SC 29634-0911 (803) 656-3000, Fax (803) 656-2670

South Dakota: T² Service, Box 2220, South Dakota State University, Brookings, SD 57007-2220 (605) 688-4185, Fax (605) 688-5880, In-state (800) 422-0129

Tennessee: Transportation Assistance Program, The University of Tennessee, 354 South Stadium, Knoxville, TN 37996-0700 (615) 974-5255, Fax (615) 974-3889, In-state (800) 252-ROAD

Texas: Local Technical Assistance Program, Transportation Training Division, Texas Engineering Extension Service, The Texas A&M University System, College Station, TX 77843-8000 (409) 845-4457, Fax (409) 845-5726, In-state (800) 827-7303, Electronic Bulletin Board (409) 845-2326

Utah: T² Center, Utah State University, Department of Civil and Environmental Engineering, Logan, UT 84322-4111 (801) 750-2933, Fax (801) 750-1185, In-state (800) 540-1348

Vermont: Vermont Local Roads Program, Saint Michael's College, Colchester, VT 05439 (802) 654-2652, Fax (802) 654-2555, In-state (800) 462-6555

Virginia: Transportation T² Center, P.O. Box 3817, University Station, Charlottesville, VA 22903-0817 (804) 293-1966, Fax (804) 293-1990

Washington: Northwest T² Center, Washington State Department of Transportation - Local Programs, Transportation Building, Olympia, WA 98504-7390 (206) 753-7390, Fax (206) 705-6822, Electronic Bulletin Board (206) 705-6840

West Virginia: Transportation T^2 Center, Department of Civil Engineering, P.O. Box 6101, West Virginia University, Morgantown, WV 26506-6101 (304) 293-3031 ext. 629, Fax (304) 293-5024

Wisconsin: Transportation Information Center, University of Wisconsin-Madison, 432 North Lake Street, Room 701, Madison, WI 53706 (608) 262-0422, Fax (608) 263-3160, In-state (800) 442-4615

Wyoming: T^2 Center, P.O. Box 3295, University of Wyoming, Laramie, WY 82071-3295 (307) 766-6743, Fax (307) 766-6784, In-state (800) 231-2815

American Indian Tribal Government T^2 Centers

Indian Local Technical Assistance Program, Montana State University, Local Technical Assistance Program, Department of Civil/Agricultural Engineering, Bozeman, MT 59717-0390 (406) 994-6101, (800) 457-2033, Fax (406) 994-6105

Technology Transfer Center for American Indian Tribal Governments in the Eastern U.S., Michigan Technological University, Michigan Transportation T^2 Center, Civil and Environmental Engineering Department, Houghton, MI 49931-1295 (906) 487-2562

Northwest Tribal Rural Technical Assistance Program, Eastern Washington University, MS-10, Department of Urban and Regional Planning, Cheney, WA 99004 (509) 359-7948

Technology Transfer and Training Program for Native Americans, Colorado State University, Engineering Research Center, Room A113, Fort Collins, CO 80523 (800) 262-ROAD

Feedback Form

We appreciate your help in keeping the Resource Directory accurate and up-to-date. Please send in the form below if you encounter any problems getting in touch with a contact person, inaccurate information, or out-of-date information.

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